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GUEST EDITORIAL

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A MODERN and enlightened social philosophy has so extended the insurance principle that there is hardly a sphere of human endeavor which may not be compensated for untoward result, real or fancied. A vast procession of cases passes through our courts daily in which the physician is a desired or essential witness, expert or otherwise. Formerly, a practitioner in court almost always confined his testimony to either the issue of sanity or to the physical facts of a death. Today he may be called on to arbitrate the question as to whether a contact dermatitis appearing on the leg of a glamorous cinema star is likely to produce an effect calculated to make the possession of their owner less desirable in the eyes of an adoring public.

Even when no medical question is in issue, the profession lurks in the background through the medium of notes displayed by jurymen, witnesses, litigants, etc., all properly certifying the necessity of judicial delay on pain of horrible catastrophe to life and limb. One would think therefore that every member of the profession would recognize the inevitability of appearances in court, and the necessity therefor.

The fact is, however, that many able physicians have a distinct aversion to appearing in court as witnesses. This is based more on unfamiliarity than fact. They do not fear the direct examination, but have a horror of cross-examination by opposing counsel, which is difficult to comprehend. It is the experience of any trial lawyer that to cross-examine a medical witness who has given a straight forward answer in simple language, easy to comprehend, on a subject matter with which he is obviously familiar, is to invite disaster. Such a witness is not uncommonly passed over in almost indecent haste.

Perhaps if physicians better understood the basic philosophy of the law their hesitation in appearing as witnesses would disappear. Most medical men are obsessed with the notion that the primary function of courts is to deal out justice. This concept, while noble, is not strictly accurate. Justice is relative and varies with time and circumstance. It is more correct to look upon courts as places where problems are settled once and for all. Society has learned, at least nationally if not internationally, that it is in the public interest to have disputes between citizen and citizen, or between the sovereign state and citizen settled. The courts, of course, try to decide the issue by awarding a decision according to law. It is a happy coincidence that law and justice usually go hand in hand, according to our concepts, but this is not necessarily so, and one might suppose, never true with respect to the losing side. Thus, in all cases, a decision must be reached, and it is part of the physician's moral and social responsibility to assist the courts in this function to the best of his professional ability.

One of the problems most frequently encountered with respect to physicians appearing as witnesses, is an inclination to avoid drawing conclusions. Most medical men

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feel qualified to observe facts at the clinical examination, and these are religiously listed. But when it comes to drawing conclusions from these facts, there is a hesitation, which, while understandable, is often carried to extremes. One might cite innumerable examples, but one will suffice. A patient struck by an automobile is bedridden, and in a few days develops pneumonia and dies. Those charged with the administration of justice are little concerned with the cause of death per se. What they want to know is, did the accident in any way contribute to the death. So often, bearing in mind preconceived notions of the function of courts relating to abstract philosophical concepts of justice, physicians will refuse to render an opinion on such a question, and retire from the problem with the pious hope that the jury will solve the question. It is submitted that this is purely a medical question, and in most cases after careful consideration of all the known facts, an opinion ought to be given. After all, it is an opinion, albeit one's best, and it is for the jury to accept or reject it. Does not the failure to solve a purely medical question, which can only have the effect of leaving it in the hands of laymen to decide, violate one of the fundamental ethics of the profession?

While to many physicians the law appears to be "a chaotic mass of heterogeneous inconsistencies", nevertheless, it derives from common sense, and the appreciation of this fact by the doctor, with respect to his relations with the law as a witness, will make him an invaluable aid in the administration of justice in his community.

GEOFFREY T. MANN, M.D., LL.B.

Dr. Mann is Chief Medical Examiner, Commonwealth of Virginia, Associate professor and head of the Department of Legal Medicine, Medical College of Virginia, Assistant professor of Pathology, M.C.V.

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The author was a great German obstetrician, Court Mid-Wife of Prussia. She kept careful notes of her cases and, when she published her book in 1690, it reflected the best obstetrical thought in Germany at that time. She and Mauriceau were responsible for introducing the practice of amniotomy to arrest hemorrhage in placenta previa.

GENERAL MANAGEMENT OF THE CEREBRAL PALSY PROBLEM*

WINTHROP M. PHELPS, M.D.,
Baltimore, Maryland.

PART I.

Cerebral palsy is responsible for as large a number of crippled individuals as any other single condition except poliomyelitis. Since poliomyelitis is an epidemic disease, the total number of cases varies from year to year and treatment must be arranged for on an emergency basis. Cerebral palsy is a condition resulting from many causes and at present is predictable in regards number of cases per year in any given community. Statistical investigation has shown that the expectancy of cases per year is approximately the same in rural and urban areas. The causative factors may vary somewhat but they balance each other so well that a definite prediction of the total number can be made.

These statistical studies, first completed by the author about 1940, have been verified by all subsequent studies. There are seven new cases in every 100,000 of population each year. Of these, one dies, so that the working figure is six surviving new cases each year. It is to be stressed that all of these six new cases are not the result of injury at birth or to prenatal conditions, since cerebral palsy frequently results from post-natal conditions, especially during the first three months of life.

A palsy is any condition which interferes with the normal control of the motor system of neurological origin. Thus, poliomyelitis is one of the spinal palsies, and there are many peripheral palsies, such as Erb's, or brachial palsy, and lead palsy. These conditions may be flaccid, spastic, athetoid, and so forth, depending on the nature of the interference with control. The group under present discussion are the palsies of cerebral origin as opposed to those of spinal or peripheral origin.

When the condition is of cerebral origin, one would expect associated handicaps to be present, since the brain has so many functions. These associated handicaps are the reason for the greater difficulty in the general management of the condition.

Briefly stated, the associated handicaps may be grouped under (1) visual handicaps, (2) hearing handicaps, (3) mental or learning handicaps, and (4) convulsive states, or epilepsy. There are a majority of the cases in which the handicap is a simple one—involving only the motor system—with normal sight, hearing and mentality and free of convulsions. Speech handicaps may be present in these, purely because of the presence of palsy in the tongue or other parts of the speech mechanism. On the other hand, the speech may be involved as the result of a hearing loss or because of mental or intelligence impairment.

In the total evaluation of a cerebral palsied individual it is very important to evaluate the speech mechanism, the sight, and the hearing, as well as the motor handicap before determining the underlying mentality. Too often a child is judged to be mentally deficient because the sight or hearing is assumed to be normal. Often these associated handicaps are hard to discover in the presence of the general crippling condition. There may be pitch cut off hearing defects, in which a child can hear noises perfectly, but is unable to comprehend speech. Visual acuity may be perfect, but eye muscle control impaired so that learning to read is very difficult. If these handicaps can be completely evaluated and allowed for in the examination, the percentage of cases in which true mental deficiency due to brain damage is only about thirty per cent of the total. Mental deficiency must also be carefully differentiated from retardation due to lack of experience with the environment because of the crippling condition.

With all of this in mind, it becomes evident that the evaluation of the cerebral palsied individual for treatment requires the services of a team. This team would of necessity be composed of doctors and those working in the special fields of education as, for example, the blind and sight conservation, and the deaf and hard of hearing, and the field of speech training.

One mistake frequently made is to decide the question of treatability of the physical handicap on the basis of the mental evaluation. There is no

*Read by invitation at the annual meeting of the Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

correlation between these two. A mentally retarded cerebral palsy may be taught to walk, for example, just as quickly as a brilliant child. The question of selection of cases for treatment should take into consideration all factors in the individual and not be based on the mental evaluation. If a mentally retarded child could be taught to walk, or talk, or feed himself, his care either at home or in an institution would be greatly simplified and free up other individuals for more useful activities.

The question, then, is, what must be known about the cerebral palsied child or adult, to determine the planning for his future from the points of view of treatment, education and vocational placement in society.

The diagnosis must first be established. The patient must demonstrate the presence of a palsy. This may be of flaccid type, spastic, or rigid type, or there may be involuntary motion, tremor or primary incoordination present. All of these represent different kinds of palsies. It is then necessary to determine that the palsy is of cerebral origin and not of cord or peripheral origin. These two determinations, are for classification in the proper clinics and the type of palsy found will determine the type of treatment to be instituted. This examination is mainly neurological, and would include probable etiology and also rule out progessive and degenerative diseases of the nervous system.

The orthopedic examination would then follow and determine the degree of severity of the palsy, the presence or absence of true contractures and other deformities, and the types of therapy to be instituted. These would include physiotherapy for gaining balance and locomotion, occupational therapy for the self help activities such as feeding, dressing, writing and the like, and speech therapy if necessary. It would also include what adjunctive therapy would be of value, such as bracing and other apparatus, drug therapy and orthopaedic surgical procedures. It should be stated here that the degree of severity of the palsy is *not* in any way an indication for or against treatment. If, for example, it is felt that the legs are so badly involved that walking is out of the question, arm treatment might be of great value in developing greater independence in wheel chair propulsion. Or in the case of a very severe total motor handicap, speech therapy might be the only indication.

Following this examination, very careful eye examination should be carried out by the ophthalmologist for eye ground study, visual acuity and extra ocular muscle control. The otolaryngologist should determine the hearing, possible pitch cut-off deafness and the status of the larynx and associated speech mechanism. These examinations of the eye muscles and speech mechanism can be best made if the specialists in these lines are fully aware of the complete neurological and orthopaedic findings.

In a certain proportion of the cases some form of epilepsy may be a complicating factor which, if present, will make the total prognosis for improvement in all lines much less favorable. Chronic infection, such as bad tonsils, will also alter the prognosis, so that a complete general or pediatric examination including electroencephalogram should be carried out and correction of these conditions instituted.

Any other special examinations would be determined by the findings of the group and might include treatment of severe allergies, dietary or vitamin deficiencies and the like. In some instances, the cerebral palsy condition may be found to be much milder than originally supposed when coincidental conditions have been eliminated.

All of the above information about the patient should be obtained before a psychometric or mentality evaluation is attempted. Psychological testing by standard tests assumes a physically normal child to begin with. Obviously the test will not be accurate if all the defects are not known to the examiner. Most of these are unsuspected visual or hearing conditions or perhaps distorted or unintelligible speech. In some of the spastics and rigidities there is a time-lag in response which is purely muscular and no indication of the actual thinking response. Other cerebral palsied children are emotionally upset and many of the more severe have of necessity been treated like babies and hence act like babies, which also would be misleading with regards underlying intelligence. Dr. Harry Bice, the psychologist for the New Jersey State program for cerebral palsy, has found it very helpful to make the psychological test in the home environment rather than the office where he can see at first hand the way in which the child is cared for. In the past too many of these children have been adjudged

mentally defective because of incomplete evaluation of all the handicaps present.

PART II.

TREATMENT PLAN, OPERATION OF PLAN AND PERSONNEL

An organized plan for cerebral palsy was first established in New Jersey under the New Jersey State Crippled Childrens Commission in 1936. It was there that by trial and error over a period of years a satisfactory and workable plan was evolved. A few years later the Ohio Society for Crippled Children and Adults decided to make cerebral palsy its chief objective. The following plan is offered, based on the experience in New Jersey and Ohio. Naturally any plan must be modified to meet the geographical demands of a given state.

COORDINATOR

The first essential for a smoothly running program is a coordinator who can relate all phases of the program. It has been found that the best person for this is the Public Health Nurse and her functions will become apparent as the plan is developed

CASE FINDING

A. From existing regional crippled childrens clinics.

B. From orthopaedic, neurological, and pediatric hospital dispensaries and out-patient departments.

C. From regular public schools—reports from public school nurses.

D. From visiting or public health nurses in the homes.

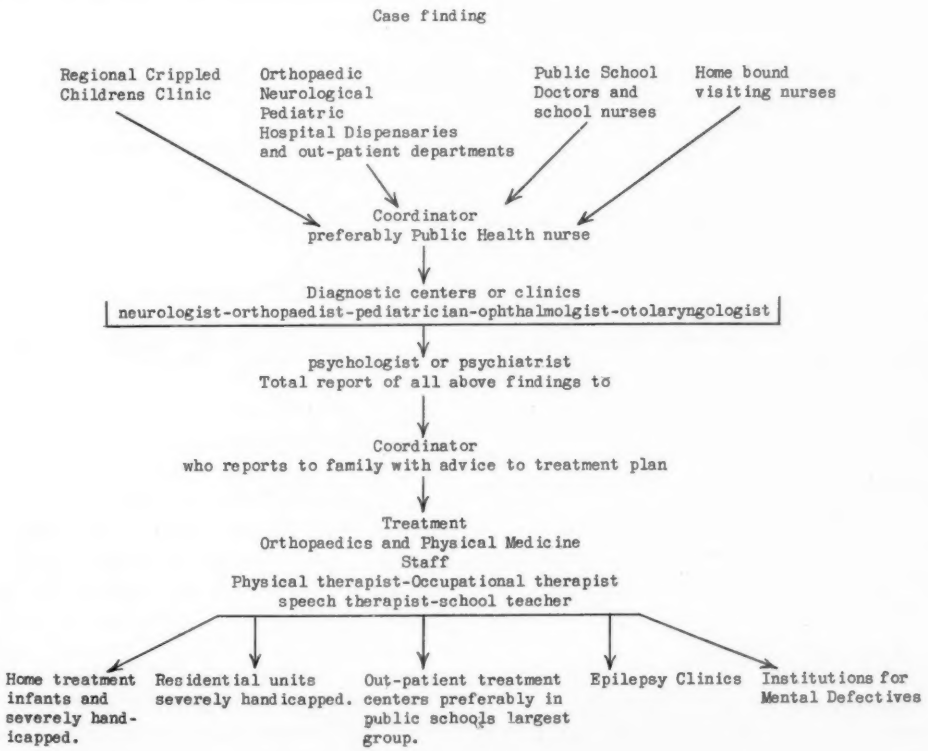
All of these sources should report the children directly to the coordinator.

DIAGNOSTIC CLINICS

These should be held regionally and their frequency determined by the number of children found in a given area. Here the following facts are determined.

A. Differential diagnosis to determine actual presence of cerebral palsy—by neurologist.

B. Etiological determination—by neurologist to prove condition is static and not a progessive degenerative disease.


Case finding
Regional Crippled Childrens Clinic
Orthopaedic Neurological Pediatric Hospital Dispensaries and out-patient departments
Public School Doctors and school nurses
Home bound visiting nurses
Coordinator preferably Public Health nurse
Diagnostic centers or clinics
neurologist-orthopaedist-pediatrician-ophthalmolgist-otolaryngologist
psychologist or psychiatrist
Total report of all above findings to
Coordinator
who reports to family with advice to treatment plan
Treatment
Orthopaedics and Physical Medicine Staff
Physical therapist-Occupational therapist
speech therapist-school teacher
Home treatment infants and severely handicapped.
Residential units severely handicapped.
Out-patient treatment centers preferably in public schools largest group.
Epilepsy Clinics
Institutions for Mental Defectives

C. Presence or absence of epilepsy. If present, child should be referred to an epilepsy clinic since adequate progress cannot be made while epilepsy is active.

D. Determination of type of cerebral palsy, where athetoid, spastic, rigidity, ataxia or tremor by neurologist, and/or orthopaedist—for purposes of treatment. Electroencephalogram frequently necessary—air studies sometimes.

E. Degree of severity of involvement in legs, arms, speech, sight and hearing—by orthopedist, ophthalmologist and otolaryngologist.

F. Presence or absence of actual or true deformities by orthopedist.

G. General pediatric evaluation for any associated or unrelated co-existing conditions—by pediatrician.

H. Mental evaluation by psychologist or psychiatrist who has all the above findings at his disposal.

TREATMENT PLANNING

Treatment should be started as early as the condition can be diagnosed—under one year of age when possible—much valuable time can be saved and deformities prevented.

Treatment plans will depend on

A. Age group: pre-school—school age—adult.

B. Degree of severity: residential unit—day school or home treatment.

C. Presence or absence of epilepsy or mental retardation or deficiency.

Since treatment of the motor handicap must be paralleled by education, it has been found best to set up the out-patient treatment centers in public schools wherever possible to save transportation. Too much can not be said for the fine cooperation of the departments of education with the medical profession in the states where this general plan is in operation. The involvement of sight, hearing and speech makes special educational methods necessary very frequently.

OUTLINE OF TREATMENT

This is usually the function of orthopaedic and physical medicine personnel including:

A. Physiotherapist

B. Occupational therapist

C. Speech therapist

D. School teacher

Treatment is primarily by the therapies, but there are definite adjuncts to treatment which include braces both for prevention and correction of deformities, as well as control braces, especially in athetoids. These braces are very different in construction from those used for polio and, unless the bracemaker is familiar with the special problems of cerebral palsy, are likely to be worse than useless. Other adjuncts to treatment are the use of certain drugs and orthopaedic surgery in adults and occasionally in children.

COSTS OF TREATMENT

Since the treatment consists of actually training the motor system to do what the normal child does automatically, it must extend over a long period of years. Children cannot learn activities with arms and legs until they reach the age at which these skills would be possible in a normal child. Hence, length of time of treatment must be considered in the cost. Braces are also a large item in the expense.

The salaries of the therapists and attendants and special transportation to the school would have to be considered. A team of one physiotherapist and one occupational therapist and speech therapist can handle not more than twenty children each day adequately. It has been found, however, that if improvement is measured, treatment three times a week is almost the same as daily, but that improvement drops sharply when treatment is given twice a week or less. This is when no supplementary treatment is given by the parents. Of course, if the parents can be taught, fewer treatments are necessary. Hence, the single team of therapists can handle 40 children if treatment is given three times a week.

When the diagnosis and planning for the child has been completed the coordinator is advised and the public health nurse then explains the situation and plan to the parents and arranges to carry out the plan whether home treatment, in babies and severe cases, or school placement either residential or day school. The coordinator will know of the facilities and sources of financial aid when necessary. All interested agencies should cooperate closely with the state services for crippled children and the department of education in carrying out the plan.

TRAINING OF PERSONNEL

The Children's Rehabilitation Institute for cerebral palsy is presently located in Cockeysville, Mary-

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land, outside of Baltimore, but is hoping to build within the next year or two on land which it owns in Baltimore. It is a non-profit institution and the chief purpose of it is the training of personnel in the management of cerebral palsy. There are at present four courses given, one for doctors, who are either members of their specific specialty boards or who are in residency training in accepted centers pointing toward their boards. The institute is recognized for three months credit in training during the children's year by the orthopaedic boards. Two courses, one for physical therapists who are members of the registry of physical therapists and one for occupational therapists who are also members of their registry, are given as definitely post-graduate training. A fourth course is given to public health nurses or others qualified to become coordinators of programs. All of these courses are of three months minimum duration and all taking them are certificated on completion of examination.

This training service was begun about ten years ago and to date about sixty doctors and two hundred therapists have been graduated. They are scattered throughout many states and some foreign countries and are almost all carrying out active programs in their localities. This training is very necessary for a successful program and it is our feeling at the institute that less than three months, even in students with the background described, is too short a time for adequate understanding of the problem. The students are not only trained in the techniques of treatment, but go on clinic trips to many surrounding areas to learn how the problem is handled and how best to adapt existing plans to their own state or country. The institute itself is a residential treatment center and school for eighty children and has a total staff for care of better than one to one.

In the past I have had to assist in planning for treatment of children in many states and this is quite an unsatisfactory system because of the limitations of facilities in many areas. It is my definite belief that each state can carry out a satisfactory solution to the problem, utilizing the facilities and personnel within its borders, if a plan such as described can be set up. The fact that such a plan has been in operation for 15 years in New Jersey is evidence that satisfactory results are being obtained.

3038 St. Paul Street

Radiation Protection Given by New Lead Glass Fabric.

A gown of lead glass fabric, designed for protection against x-ray radiation and beta radiation of atomic fission products, has been proved successful, according to an article in the Jan. 12 Journal of the American Medical Association.

The advantages of the gown over existing protective devices, the report stated, include its complete protection of all exposed parts of the body, flexibility, durability, a weight of only 10½ pounds which is evenly distributed over the body, and cleanability, since the garment may be washed with soap and water.

In addition, lead glass material may be used as a curtain to block off radiation in a room where superficial therapy is given or in a radiographic room.

The report was prepared by Drs. Vincent W. Archer, George Cooper, Jr., J. G. Kroll and D. A. Cunningham of the department of roentgenology of the University of Virginia Hospital, Charlottesville, Va.

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THE USE OF ADRENAL CORTICAL HORMONE IN ALCOHOLISM—

Report of 100 Consecutive Cases*

R. G. MCALLISTER, M.D.,
Richmond, Virginia.

Is there a doctor anywhere who is not afflicted almost daily by patients who descend on him with sensational ideas of miracle therapy found in the latest issue of the lay press, particularly such jewels of medical knowledge as *Reader's Digest?* As unwelcome as most such visitations are, this is the tale of one with a happy ending.

In September, 1950, Mr. H.C., a staunch member of Alcoholic Anonymous, whom I had laboriously nursed through several prolonged binges but who had remained on the straight and narrow for five months, approached me in my office. "Doc", he said, "I have been fighting an urge to get soused for three days, and I can't stand it any longer. I'm on my way to the ABC Store, but since I honestly don't want to go through another binge, I thought I'd give you a chance to keep me from drinking." I sighed and said I wished I could. "Here", he continued, "read this article!" and he produced a lay magazine, opening it to a treatise entitled "New Hope for the Alcoholic", referring to the use of Adrenal Cortical Extract in the treatment and prevention of alcoholism. It was, I thought, another of those cure-all articles; but is was well-written, and did sound enticing.

Here was a challenge, and a promise to postpone his binge was not hard to obtain, and although I doubted there would be any benefit resulting, we agreed to try. Since it was available, I gave him ½ cc. of Lipo Adrenal Cortex, i.m., and 1000 mg. of vitamin C by vein. Three days later he reported, very sober, very calm, and most enthusiastic about the almost immediate effect. He had even by-passed the liquor store three blocks away! He stated that it was remarkable how the over-powering urge had vanished and did not return.

A long search of the literature was fruitless. It seemed there simply had not been enough time for the work to be published in medical journals. At any rate, I obtained some Adrenal Cortical Extract, using on successive cases a random dose of 1 cc. intravenously, combined with 500 or 1000 mg. of ascorbic acid, and found my own enthusiasm building up.

About the first of this year, the elusive literature was finally found: papers by Dr. James J. Smith, of Bellevue, in the *Quarterly Journal of Studies on Alcohol,* Drs. Tintera and Lovell in *Geriatrics,* and Hirsh in *Postgraduate Medicine.* A review of these papers produces some new concepts of alcoholism. Former concepts of the condition dealt only with the external environment and personality problem of the alcoholic, disregarding his internal or physiological and metabolic environment, while these recent studies have supported the hypothesis of metabolic factors in the etiology of alcoholism.

In this country of 60 million social drinkers it is estimated that there are 3 million who drink to excess, and of this number one-fourth, or 750,000, are problem drinkers. Hirsh classifies problem drinkers as follows:

1. *Symptomatic alcoholics*—where alcoholism is the expression of some underlying inadequacy or physical or mental defect (i.e., epilepsy, psychoses, psychoneuroses, mental deficiency and psychopathic personality). This group comprises 40 to 60 per cent of alcoholics.

2. *True Addicts*—those who are incapable of a normal reaction to alcohol because of some inborn error in their hereditary metabolic make-up or modified during important growth periods.

3. *Secondary Addicts*—those who resort to alcohol as a result of situational factors in their own lives which impose too great a stress to surmount.

During the period of habituation to alcohol certain personality changes and possibly physical changes occur in the secondary addict. Selye has noted that worry, grief or other alarm stimuli in the presence of alcohol ingestion will produce hypertrophy of the adrenal cortex and eventually hypoadrenocorticism. Alcoholic over-indulgence ultimate-

*Read before the annual meeting of the Medical Society of Virginia at Virginia Beach, October 7-10, 1951.

ly affects in turn all the vital organs in addition to the central nervous system, and these pathologic changes, regardless of etiology, present a challenge to the medical profession. Our aims in medical treatment are to prevent or alleviate the physical effects produced by alcohol while we attempt to get at the root of the problem through re-education and rehabilitation of the individual by psychotherapy, and/or through the methods of Alcoholics Anonymous.

Ingested alcohol is absorbed as such from the gastrointestinal tract and burned by the tissues, only about 10% being excreted *via* urine, sweat and expired air. Alcohol may be substituted isocalorically for another food and is apparently metabolized at a constant rate irrespective of the concentration in the tissues. Alcoholic over-indulgence produces an initial hyperglycemia but an eventual hypoglycemia; it is accompanied by an initial retention of nitrogen, potassium and sodium, but during the recovery period produces an increased excretion of the electrolytes—an effect not unlike that noted in the absence of the adrenal cortical hormone.

Tintera and Lovell believe that imbalance, as evidenced by pre-existing hypoadrenocorticism, may predispose certain young males to alcohol sensitivity, and that long continued alcoholic indulgence may cause damage to the adrenal cortex. Smith postulates that problem alcoholics conform to a physical and biochemical pattern involving the pituitary-adrenal-gonadal triad and that adrenal exhaustion is involved. He believes that endocrine dysfunction antedates alcoholism; that the defect is primarily a pituitary deficiency to which adrenal cortex inactivity is secondary.

Treatment by these authors with adrenal cortex extract consisted of intravenous administration of 30 cc. in divided doses during the first 24 hours, 20 cc. in the next 24 hours, and 5 to 10 cc. daily for three days, followed by intramuscular injection of 2 to 5 cc. twice a week for three weeks, then weekly doses for an indefinite period. This was combined with a diet high in fat, moderate in protein, and restricted in carbohydrates. Sedatives were usually not necessary. Hospitalization of the acute alcoholic for 3 to 5 days was always desirable and often necessary, though out-patient treatment often met with good results. ACTH in doses of 25 mg. and 10 cc. of adrenal cortex hormone were used every 6 hours for 24 to 36 hours in severe alcoholics with hallucinosis or delirium tremens. In dealing with the chronic alcoholic, Smith also administered testosterone to the males and estrogen to female patients whose alcoholism was post-menopausal.

However, Forbes has shown that an intoxicating dose of alcohol administered to normal rats and guinea pigs caused a distinct reduction in both the cholesterol and ascorbic acid content of the adrenal glands, and concludes that alcoholic intoxication imposes a condition of stress which results in a depletion of these adrenal constituents.

With your permission I would like to report 100 consecutive cases of alcoholism in 53 patients, treated in the office or at home with adrenal cortex extract. In the past this product has been exceedingly scarce, and it would have been impossible to treat more than a very few people if the schedules recommended above had been followed. And, surprisingly enough, my random restricted dosage of 1, or later 2, cc., combined with 500 or 1000 mg. of ascorbic acid, given intravenously, gave very satisfactory results. It has been my impression that the larger doses might have been more successful in the very ill patients. A.C.E. given alone was not nearly as effective as when combined with ascorbic acid, and ascorbic acid alone was ineffective. A more slowly-acting product—Lipo Adrenal Cortex—was given where speed of action was not important, and to carry the patient after the acute symptoms were controlled. The oral preparation, Cortalex, had little or no effect. In a few cases the sex hormones were also given, though without apparent effect.

As seen in the table, I have attempted to classify the 100 cases, involving 53 patients, as to their degree of alcoholism, from very acute to moderately severe. As to results, excellent means no further alcohol, rapid improvement, and complete recovery of the acute attack; fair means some improvement only; and poor means failure in alleviation of the alcoholism—without exception in people who continued to imbibe, in spite of promises and attempts at its removal.

The very acute include those who were on the point of, or were actually having, the hallucinosis of delirium tremens, or were talking actively or had attempted suicide, and so on. There were a total of 9 such cases, 4 of which received only one injection, 2 received 2, and 3 received more than two

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injections. Six required a sedative. As to the results, 3 were excellent, 3 were fair, and 3 were poor. Incidentally, the sedation prescribed was always mild, such as a dram of paraldehyde or Elixir Butisol Sodium, or ¾ gr. Nembutal, and in such small doses was found to be adequate.

Further were the acute, very severe, cases, which were short of DTs but were quite ill. Of 18 cases, 7 received one and 7 received but two injections; 11 cleared rapidly, 2 were considered fair, and 5 were considered failures. There were 29 cases of acute, severe—not quite as ill—18 of which received but one injection; 22 showed excellent results, 4 were failures, and 3 could not be traced. The best results seemed to be in the acute, moderately severe, cases. They were sick enough to want help, but sensible enough to cooperate. Of 29 such people, 26 were benefited beautifully, two were failures, while one could not be found. Sixteen of these required but one injection, eight required two, and five required more than two injections; ten required sedation. The moderately severe apparently were not sick enough to cooperate; of ten such cases, four were helped completely, five were only partly helped, while one was a failure. Only one required sedation. In the five patients who admitted an "urge", all received but one injection of either ACE or Lipo Adrenal Cortex with excellent results.

The total of 100 consecutive cases in 53 patients shows excellent results in 71, fair in 10, poor in 15, with 4 who could not be followed. Fifty-six received but one injection, 28 received two, while 16 required more than two injections (3 to 12). Many of the failures, particularly the very ill, had to be hospitalized; some of these were patients obviously disturbed other than by alcohol alone. Of the 53 patients, 42 were male and 11 were female; their ages varied from 28 to 63 years. The repeaters were 9 males who were treated on from two to five separate occasions, and 8 (of the 11) females, also treated from two to five times except for one who was treated nine times.

Not included in the series were three cases of barbiturate addiction, combined in each case with dexedrine or a similar drug. Each received many injections and each was cleared of his condition dramatically, and within a week. Also noted were attempts to help three cases of opiate addiction, one from paregoric and the others from a large morphine or dilaudid habit, all while waiting for hospitalization. The paregoric victim was later treated in a local hospital and the ACE was continued, with some help. The others were able, under rather large doses of the hormone, to reduce their medicine one-fourth and one-half in the period before hospitalization.

It was found that there were several things necessary to make this treatment a success. First is a definite desire on the part of the patient to stop drinking; otherwise cooperation will not be forthcoming. Absolute abstinence from alcohol is necessary; for even a small amount definitely cuts down the effect of the hormone. Encouragement, especially in the form of "AA tactics", is vital, and an explanation of what he should expect from the treatment is helpful. Forcing of fluids and the ingestion of nourishing food is soon made possible by the treatment, and is important. Vitamin B complex and vitamin C, orally, in large doses was found to be of value. Experience has been limited in the use of the sex hormones in combination with the adrenal cortex; no doubt they are of great value when there is as a definite need for them.

It is remarkable to see the improvement in mental outlook and physical condition of these patients, which frequently can be observed within 15 minutes. There is a sedative effect upon the acute alcoholic, along with a definite sense of relative euphoria; he will almost always have a fairly good night's sleep, and be able to take and retain juices within a short while. This gives hope and confidence to a depressed and beaten individual. No adverse side-effects were observed. The injection was often given in the presence of an elevated blood-pressure, which often dropped as the patient improved.

There seems to result an almost specific action in stopping the need and craving for alcohol in both the acute and the chronic alcoholic. It has no lasting effect in preventing further alcoholic bouts, although it can prevent a binge if taken prior to indulgence. I believe the combination of the ACE within vitamin C is very necessary; the effect is thus enhanced.

I would like to mention again that these patients were not treated in the hospital, where optimal conditions can be obtained. That fact alone emphasizes the efficacy of the treatment of a condition so difficult to control on the outside, and so often discouraging both to physician and patient. It, of

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	Number of Injections				Sed.	Results			
	1	2	More	Total		Excel	Fair	Poor	?
Very acute (hallucinosis, suicide attempt, etc.)	4	2	3	9	6	3	3	3	0
Acute, very severe	7	7	4	18	12	11	2	5	0
Acute, severe	18	8	3	29	11	22	0	4	3
Acute, moderately severe	16	8	5	29	10	26	0	2	1
Moderately severe	6	3	1	10	1	4	5	1	0
"Urge" only	5	0	0	5	0	5	0	0	0
Total Cases (53 patients)	56	28	16	100	40	71	10	15	4
Barbiturate addiction	0	0	3	3	0	3	0	0	0
Opiate addiction	0	0	3	3	1	0	3	0	0

course, should be combined with the recognized treatment of the alcoholic, such as psychotherapy and rehabilitation, with special emphasis on the tactics of AA.

One interesting sidelight on the hypoadrenocorticism theory was the treatment of three patients who had rather severe post-grippe prostration. Two of them, whose adrenal glands had been subjected to rough treatment in former years of alcoholism, responded dramatically; the other, not an alcoholic, showed no improvement. The similarity between the prostration of post-alcoholism and post-infectious states suggests wider use of the hormone in the alcoholic, particularly when he is or will be subject to any sort of stress, whether alcoholism is the immediate problem or not.

SUMMARY

A new concept of the etiology of alcoholism—that it is either a metabolic disease or a condition of altered metabolism due to continued use of alcohol—has been discussed, and the treatment with large amounts of adrenal cortical hormone by Drs. Smith, Tintera and Lovell, was summarized. A report of 100 consecutive cases of alcoholism in 53 patients treated in the home or at the office with small doses of the hormone combined with ascorbic acid, was given in some detail. Excellent results were obtained in 71% of all cases, ranging from very acute to moderately severe. Three cases of barbiturate addiction and five cases of severe "urge" to drink were effectively treated. It is felt that the endocrine treatment of alcoholism is an excellent adjunct to our present therapy of this distressing disease and should be more widely used. It is especially well-suited for use in general practice, for by it a large majority of the sick alcoholics can effectively be withdrawn and controlled without resort to hospitalization.

REGIME OF TREATMENT

Adrenal Cortex Extract (Upjohn or Armour) 2 cc
Ascorbic Acid, 500 or 1000 mg.; 1 or 5 cc

The above injection, mixed and given intravenously, may be repeated every 6 to 24 hours as indicated. After the acute symptoms are controlled, patient may be maintained with ½ cc Lipo Adrenal Cortex intra-muscularly every one to two days. The above dosage of Lipo A.C. is helpful in abolishing an "urge" to drink prior to the use of alcohol.

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1000 Park Avenue

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INFECTIOUS MONONUCLEOSIS: A CLINICAL ANALYSIS OF 210 SPORADIC CASES*

JOHN EDGAR STEVENS, M.D.,
Richmond, Virginia.

A. INTRODUCTION

Infectious mononucleosis is a disease that is probably more common than is generally believed. The failure to recognize its prevalence is due to its mildness in the majority of cases and the inability to make an etiologic diagnosis. The best that can be done is to make a presumptive clinical diagnosis and substantiate it with suitable laboratory procedures.

The purpose of this report is to present the pertinent clinical and laboratory findings in a study of 210 sporadic cases of infectious mononucleosis. In this presentation it is intended that the unusual as well as the usual manifestations of this common disease be given to re-emphasize its protean character.

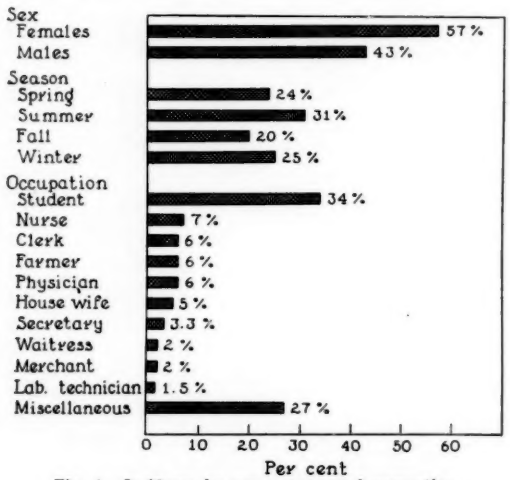

Fig. 1.—Incidence by sex, season, and occupation.

The 210 cases selected for analysis were patients at the Mayo Clinic between January 1937 and December 1946, inclusive. They were selected on the basis of having either a positive blood smear or a positive heterophile agglutination test. A positive blood smear was taken to be one in which the differential count showed at least 50 per cent lymphocytes of which a significant number were of the abnormal leukocytoid variety described by Downey. Heterophile agglutination was considered to be positive when patients' serum contained agglutinins for sheep red blood cells in a titer of 1:224.

The incidence by age ranged from 9 months of age to 68 years of age with 59 per cent occurring between the ages of 16 and 26 years. Ninety-three per cent were in patients under 35 years of age.

Females constituted 57 per cent of the total number (Figure 1). No racial distribution was found.

It was estimated that 50 per cent of the patients were residents of the local community or its environs. The remainder came from other parts of the United States or from foreign countries.

The seasonal variation of the disease showed the highest incidence (31 per cent) to occur in the summer months (Figure 1), which is contrary to the general observation that the incidence of infectious mononucleosis decreases at this season.

The incidence by occupation (Figure 1) demonstrated that infectious mononucleosis may not be categorically classified as a disease of any one certain economic or social group. It should be suspected and sought for in any patient regardless of age, sex, race, or occupation.

B. EPIDEMIOLOGY

Information relative to epidemiology was limited. For example, the incubation period could not be estimated. It was noted, however, that in 109 patients an average of 11.9 days elapsed from the date of the first symptoms until the patients sought medical attention. The mortality was insignificant. There was only one death. This occurred in a youth 21 years of age who developed a secondary pulmonary infection.

There was a suggestion of a relationship between infectious mononucleosis and lowered resistance incident to other conditions. Eight patients, or 3.8 per cent of the total group, were found to have dental sepsis or a recent dental extraction.

Eight patients, in whom pre-operative blood studies had revealed no hematologic evidence of the disease,

*Abridgment of thesis submitted by Dr. Stevens to the Faculty of the Graduate School of the University of Minnesota in partial fulfillment of the requirements for the degree of Master of Science in Medicine.

Read before the annual meeting of The Medical Society of Virginia at Roanoke, October 8-11, 1950.

developed infectious mononucleosis during convalescence from general surgical procedures.

C. Clinical Manifestations and Complications

The protean nature of infectious mononucleosis gave rise to a variety of complaints (Figure 2) and

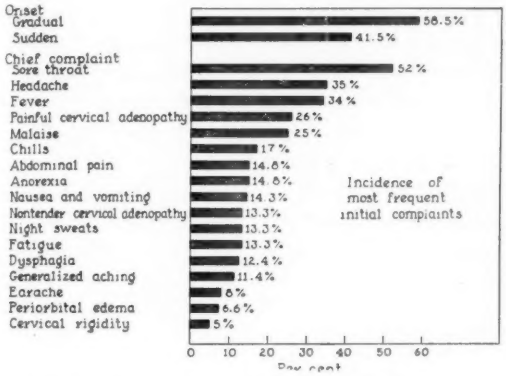

Fig. 2.—Type of onset and most frequent complaints.

clinical findings (Figure 3). Figure 4 gives a list of the numerous diagnoses these patients had on admission. This disease simulated other diseases so

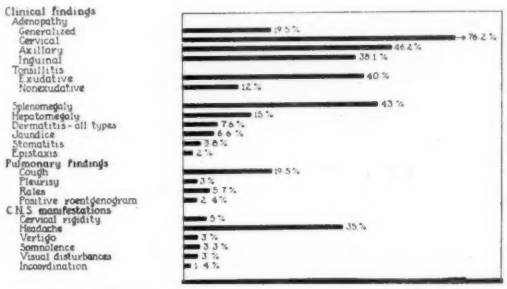

Fig. 3.—Incidence of more common findings in 210 patients.

closely that one wonders how often it goes unrecognized.

The onset was insidious in 58.5 per cent. Occasionally symptoms were absent and the disease was encountered in the course of a routine physical examination. In others the onset was acute with fever and chills.

(*1*) *Respiratory Manifestations.* Sore throat was the outstanding complaint (52 per cent) of the patients in this series (Figure 2). Exudative or membranous lesions of the tonsils or pharynx were noted in forty per cent (Figure 4). Lymphoid hyperplasia and marked edema at times caused dysphagia. Stomatitis was observed and was at times accompanied by

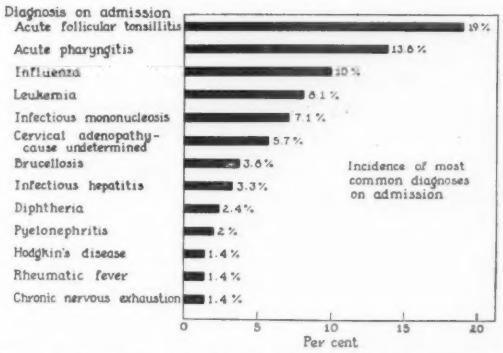

Fig. 4.—Diagnosis on admission of 210 patients in which diagnosis of infectious mononucleosis was made.

gingivitis. There was only one instance of peritonsillar abscess developing as a sequel to a severe tonsillitis.

Roentgenographic evidence of pulmonary involvement was found in only 2.4 per cent of the patients in this series, although cough, pleuritic pain and rales found on auscultation were noted in varying degrees (Figure 3).

Three per cent of the patients studied came for examination because of recurrent upper respiratory infections, and were found to have infectious mononucleosis. Chills ushered in the disease in 17 per cent of the cases. Fever of varying degrees was present in almost every case at some time during the course of the disease. The highest fever encountered was 105 F. The average duration of fever was between nine and fifteen days.

(*2*) *Gastro-Intestinal Manifestations.* Splenomegaly occurred in 43 per cent of the series (Figure 3) and was usually encountered between the tenth and twenty-first day. Enlargement of the spleen persisted in several cases from four to eight months.

Hepatomegaly was found in 15 per cent, but jaundice appeared in only 14 of our patients, or 6.6 per cent of the total.

Abdominal pain of such severity occurred in two of the patients, that surgical exploration was done as an emergency measure. In both patients, the only significant finding was mesenteric adenitis. Abdominal pain as the presenting complaint was noted in 14.8 per cent of our cases (Figure 2), while anorexia occurred in the same frequency.

(*3*) *Neuro-Muscular Manifestations.* The onset of infectious mononucleosis was often characterized by severe myalgia, the paravertebral muscles being

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most often affected, giving backache as a principal complaint.

In most patients in whom neurologic complications of infectious mononucleosis occur, headache has been the symptom that predominated. In this series 35 per cent complained of headache, especially at the onset of the disease.

Cervical rigidity was found in 5 per cent, while somnolence, vertigo, and visual disturbances were noted in approximately three per cent (Figure 3). Insomnia was noted with almost the same frequency. Visual disturbances encountered were blurring, diplopia, and scotomata. Mania and delirium occurred in two cases in which the clinical appearance was that of meningo-encephalitis.

(*4*) *Vascular and Lymphatic Manifestations.* Epistaxis occurred infrequently, and hematuria either gross or microscopic was observed in 12.8 per cent of our cases.

Demonstrable lymphadenopathy is not a *sine qua non* of this disease; however, it is of interest to note that of all the objective findings, cervical adenopathy was the most frequent of physical findings (Figure 3). Generalized enlargement of all lymph nodes occurred in only 19.5 per cent. A greater incidence of adenopathy was seen in the following order of increasing frequency: inguinal, axillary, and cervical.

(*5*) *Genito-Urinary Manifestations.* It was not uncommon to find abnormal constituents in the urine of these patients. Hematuria and other urinary findings, observed but not summarized in this analysis, were albuminuria, pyuria, and occasionally hyaline and granular casts. These findings, observed during the height of the disease, disappeared as the condition of the patient improved. In no case was renal function found impaired.

(*6*) *Cutaneous Manifestations.* In this group of cases only 16 of the 210 (7.6 per cent) exhibited dermatologic manifestations. Classified as to type of skin lesions, they were as follows: maculopapular 3, polymorphous (appearance of erythema multiforme) 3, urticarial 3, macular 2, morbilliform 2, hemorrhagic 2, and nodular 1. The appearance of rash in these patients bore no relation to the clinical course of the disease.

(*7*) *Ocular Manifestations.* Edema of the eyelids and periorbital tissues was noted in several of the patients (Figure 2). Photophobia, burning, lacrimation, conjunctivitis and uveitis were found infrequently.

(*8*) *Relapses and Recurrences.* In ten cases a relapse occurred within a period of four months. We considered a relapse as a return of activity of the disease process with its clinical manifestations before all manifestations of the preceding attack had disappeared. An increase in jaundice was the principal indication of relapse, while tonsillitis or dental sepsis was the manifestation in other instances.

Recurrence was the term used to denote a second attack of infectious mononucleosis with the interval period between attacks (measured in months or years) being subjectively and objectively free of manifestations of the disease. Only two patients in this study could be classified as having recurrences. In both instances eight months was the interval between attacks.

D. LABORATORY FINDINGS

(*1*) *Hematologic Studies.* Eight per cent of the patients presented themselves for examination because their illness had been diagnosed elsewhere as leukemia. In only one case, however, did the smear of the peripheral blood strongly suggest this diagnosis because of the preponderance of Downey type III leukocytoid lymphocytes over the other two types of lymphocytes.

In our study 96.6 per cent had smears of the peripheral blood showing a significant increase in the atypical leukocytoid forms of lymphocytes. In 54.7 per cent a blood smear characteristic of this disease was obtained by the eighth day of the disease, while the average for all cases was 13.6 days. Serial smears were not taken in these cases, but it is likely that had they been done, probably all of the cases would have shown a significant number of abnormal lymphocytes.

Changes in morphology of other leukocytes in infectious mononucleosis were not striking. For the most part there was some left shift in the neutrophils even to the promyelocyte stage, but toxic granulations of neutrophils were rarely seen.

Anemia is not characteristic of infectious mononucleosis, and only 5.5 per cent were found to have a hemoglobin below 11 gm. per 100 cc. of blood. Platelets and bleeding time were not studied, although several isolated incidences of transient thrombocytopenia and prolonged bleeding time occurred.

The lowest total leukocyte count encountered was 600 leukocytes per cmm., while the highest count was 42,000. In general, the more elevated the total leukocyte count, the more severe was the clinical course.

Figure 5 shows the distribution of total leukocytes and per cent of lymphocytes in relation to the duration of the disease measured in days. The aggregate counts when charted did not depict a trend we have observed in several cases: a leukopenia occurring in the early stages of the disease followed by a rapid rise to the peak count between the fifth and fifteenth day to be followed by a gradual return to normal values. It should be pointed out that normal to leukopenic total counts in early stages of sporadic cases such as ours are not usual in those of the epidemic form of this disease.

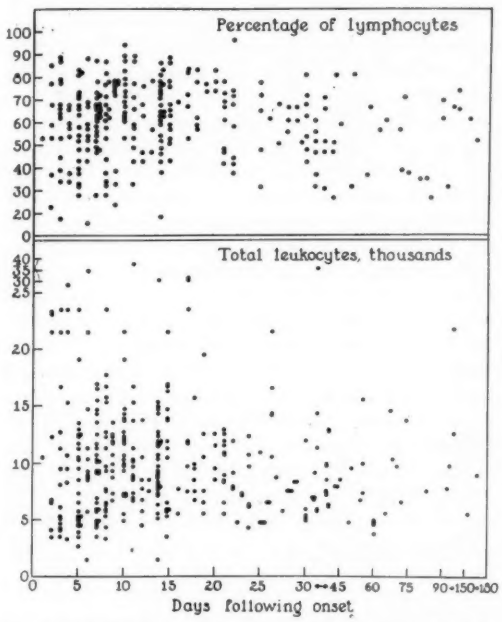

Fig. 5.—Distribution of total leucocytes and per cent of lymphocytes in relation to the number of days following onset of illness.

Neutropenia in the early phase of the disease became so marked that agranulocytosis was noted in one patient. The patient, a 65-year-old physician, showed a total leukocyte count of 7,600 cells per cu. mm. The differential count showed 96.5 per cent of these were lymphocytes, the majority being leukocytoid, and 3.5 per cent were monocytes. After four days, neutrophils reappeared in the peripheral blood and the subsequent course of the disease was uneventful.

While one expects to see a lymphocytosis of 50 per cent or over at some stage of the illness, the occurrence of the atypical forms in the majority of the lymphocytes is most significant. Figure 5 shows the wide range of lymphocyte percentages observed in this series. These figures represent one or more determinations on each patient. The average degree of lymphocytosis was between 65 to 70 per cent. Usually the peak of lymphocytosis was reached by the fifteenth day and return to normal was completed by the thirtieth day. But it was not uncommon to observe a lymphocytosis persisting for months after the illness. In eight cases in which tests for liver function were performed, all showed impairment of function. This is consistent with recent observations[1,2,3,4,5,6].

(*2*) *Urine Studies.* Bile was found in the urine in only seven patients, while glycosuria occurred in thirteen. Hematuria, pyuria and cylinduria occurred in the presence of normal renal function.

(*3*) *Serologic Studies.* The sheep erythrocyte agglutination test (heterophil agglutination) reached a significant titer in 90.8 per cent of 142 patients in which this test was performed. The highest titer encountered in this series was 1:7168. Most of the elevated heterophil agglutination titers occurred after the seventh day of the disease (Figure 6), and in 51.4 per cent a significant elevation was demonstrated by the fifteenth day. Many times blood for serologic study was withdrawn too early in the disease for a significant titer to have become manifest. Maintenance of an elevated titer can be seen in Figure 6

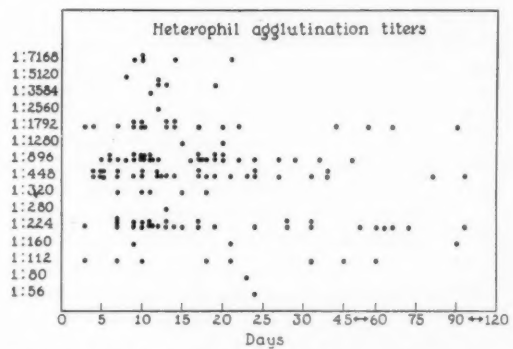

Fig. 6.—Range of heterophil agglutination titers according to day obtained.

in which instances of high titers after ninety days are recorded.

The elevation in titer was at times temporary, and, unless frequent determinations were made, one may not demonstrate a significant elevation of the heterophil titer as frequently as we did. In our laboratory we considered a titer of 1:224 to be of diagnostic value.

Four patients developed positive serologic reactions for syphilis which were temporary.

SUMMARY AND CONCLUSIONS

1. A study of 210 sporadic cases of infectious mononucleosis was made. No significant difference was noted between these cases and those encountered and reported elsewhere.

2. The most important findings on which to establish a diagnosis of infectious mononucleosis are (a) increase in the number of lymphocytes, with a significant number of them being atypical leukocytoid forms, and (b) either a rising titer of heterophil antibody or an already established high titer. Clinical findings are too diverse to serve as final criteria on which to establish a diagnosis of infectious mononucleosis.

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2608 Monument Avenue

DISCUSSION

DR. G. WATSON JAMES, III, Richmond: I appreciate very much being called upon to say a few words in discussion of Dr. Stevens' scholarly and thought provoking paper on infectious mononucleosis. Dr. Stevens has very clearly pointed out to us this morning the importance and varied clinical symptomology of this disorder of such protean manifestations. These observations are in keeping with an idea that infectious mononucleosis may be a key disorder in hematological research.

We know little concerning its etiology except we believe it is probably virus in origin; it is contagious, since it appears in epidemic form; but generally it is of low infectiousness. It may be also suspected, however, that a great many individuals have sub-clinical attacks and perhaps immunity. Recurrences and relapses do occur, indicating immunity is not absolute. The revival of an interesting note on the etiology of this disease has come from Australia in recent months. Many of us will remember as medical students seeing a plate in Maximore and Bloom's histology which demonstrated large numbers of monocytes brought forth by an infection rabbits with an organism known as listerella monocytogenes. The listerella monocytogenes is a causative organism of a rare disease, perhaps more common in certain animals other than man, which is characterized by a "monocytic" leucocytosis, bacteremia, hepatic necrosis, and occasionally encephalomyelitis.

The Australian workers found that the monocyte producing action of listerella monocytogenes was a part of the lipoid material of the organism. Actually, the M.P.A., as they called this substance, was serologically inactive, and had low tissue toxicity. They pointed out that infectious mononucleosis, as we know, assumes several different clinical forms. For these reasons they undertook to study twenty consecutive patients with infectious mononucleosis diagnosed by clinical and hematological means. The investigations were designed to determine whether there existed any relationship between the Paul-Bunnell titre and the presence of agglutinins for the listerella organism, and to determine if listerella could be isolated from the blood stream.

From these studies they derived three classifications: those with a positive heterophile test and also listerella agglutination; those with a postive heterophile test and a negative listerella agglutination; and those with a negative response to both tests. The listerella organism was not isolated from any of the blood cultures. They concluded that some cases of infectious mononucleosis may be due to infection with listerella monocytogenes. This may explain some of the variable results seen with antibiotic therapy. But the exact role of listerella in infectious mononucleosis, if it plays a role, must await further study before a definite answer can be obtained.

I should like to reiterate a little on what Dr. Stevens has said regarding the hematologic diagnosis of this disease. Occasionally we have been called to see a patient quite ill with a disease simulating an infectious origin and find marked changes in the peripheral blood. We have wondered whether the patient had acute lymphatic leukemia or infectious mononucleosis. Indeed, it is important to make a differential diagnosis. Three important things should be borne in mind in differentiating these two diseases. Acute leukemia is almost always

associated with anemia, thrombocytopenia, and the changes in the bone marrow make the diagnosis specific. Rarely, indeed, is infectious mononucleosis accompanied by pronounced anemia, or thrombocytopenia. If the onset of the disease is gradual with perhaps slight fever and lymph node enlargement, the differentiation from early chronic lymphatic leukemia may be difficult.

Dr. Stevens has reported elsewhere that in his patients there may be considerable myeloid immaturity, but not beyond the promyelocyte stage. Early examination of the bone marrow in patients where there may be doubt about the diagnosis is exceedingly important. In infectious mononucleosis the marrow is relatively normal except for slight myeloid hyperplasia, although some recent literature states that granulomatous inclusion bodies can be found in certain areas, and that the lymphoid areas in the marrow undergo diagnostic changes.

The treatment of this disease is still chiefly symptomatic. A recent report has advocated the use of aureomycin, and some physicians believe this drug is of value. The main objects in therapy are toward the local manifestations, provisions for adequate bed rest, and a diet well balanced with particular emphasis on higher carbohydrate and protein equivalents. If the throat is particularly sore and there is marked dsyphagia, high caloric liquid diets are to be advocated. Antibiotics are not contra-indicated and may be helpful in treating secondary infection in the tissues of the throat.

There are two major complications: first, serious parenchymatous involvement of the liver, a so-called hepatitis, and, secondly, the dramatic complication of spontaneous rupture of the spleen. The latter may not always be "spontaneous". Enthusiastic palpation for the spleen is to be avoided, since the pathology in fatal cases indicates this organ has acquired rather unique fragility. A clue to this complication is often an unexpected rise in the white count, chiefly polymorphonuclear cells. Associated with pain and discomfort in the left upper quadrant. As regards the hepatitis, Liebowitz[1] has recently described a patient who developed cirrhosis of the liver, and mentioned that poor diet may have been a factor in the progressive liver pathology. A greater number of individuals have laboratory evidence rather than clinical evidences of liver involvement.

In my opening remarks I mentioned that infectious mononucleosis may be a key hematologic disease. I do not want to be misunderstood in making too close a comparison to leukemia, but there are interesting similarities in hematologic and clinical manifestations. One of the most interesting of all these are lesions of the oropharynx. In fact, mouth lesions are extremely common in many types of blood disease, and we have learned to associate mouth lesions with nutritional disorders, particularly with certain of the water-soluble vitamins and growth stimulants. It is important in hematologic research to bear in mind that what we see as changes in the peripheral blood in disorders of the white cells, may be the results of deficiency of a particular metabolite that has secondarily developed because of selective inhibition or competition by an infectious agent.

This morning we have gained considerable insight to the clinical manifestations of this disease, and are increasingly aware that it involves not only the blood, but the other systems as well. For this reason there must certainly exist overall metabolic effects, and a clear study may elucidate much regarding the disorders of leucocyte metabolism. It is for these reasons, I believe, it may be a key hematological disorder.

I have enjoyed your paper, Dr. Stevens, and I have learned a great deal from it. It has been a privilege to discuss it.

DR. H. O. BELL, Belleville, N. J.: I just want to ask two questions. I notice that in the discussion of infectious mononucleosis Dr. Stevens made the statement that about five per cent of the patients showed clinical neurological manifestations. I should like to know if he has had any experience in doing lumbar punctures on the patients with those manifestations and has found any increased cells and protein in the spinal fluid. We had this experience with one young woman who showed a bilateral facial paralysis and the picture of a Guillain-Barré syndrome with spinal fluid changes and a heterophile agglutination test of about 1-3500.

Another thing—do you find that the blood picture becomes normal in a few weeks, or does it still remain abnormal for many months?

DR. T. DEWEY DAVIS, Richmond: I would like to discuss this excellent paper, illustrating a practical point which might arise. Most of the individuals suffering from infectious mononucleosis are young and a good many are in the marriage age. As you know, a definite number have a temporarily positive Kahn reaction usually of a mild degree. If one of these individuals appears for premarital serological test, it may raise a delicate question as to their marriage and sometimes it will be necessary to invent some excuse for a waiting period if there is a question of the individual being too upset over the questionable finding. After a few weeks or months the blood will probably be negative.

DR. STEVENS, closing the discussion: I should like to thank Dr. James for his excellent discussion.

The neurologic changes in infectious mononucleosis may vary from clinical meningitis to paralyses as seen in the Guillain-Barré syndrome. Dr. Tidy, of England, among others, believes that infectious mononucleosis may be the etiologic factor in benign lymphocytic choriomeningitis. Hiller and Fox and later others have noted the association of this disease and the Guillain-Barré syndrome. I do not think any of us knows what causes this syndrome, but it is interesting that in some patients neurological changes characteristic of this have occurred, and deaths have been reported.

With reference to the next question, as to how long

(1) Liebowitz, S., and Brody, H.: Cirrhosis of the Liver Following Infectious Mononucleosis. *Am. J. Med.* 8:675, 1950.

the blood stays positive, the heterophil agglutination, I do not believe, can give the true answer. The criteria for diagnosis are, first, the positive blood smear, and, second, the elevated titre for heterophil agglutination. One will not necessarily find persisting cytologic changes in the lymphocytes over a long period of time. That is why, unless one does a careful study a "positive blood picture" is not always found. By the fifteenth day, although lymphocytosis will persist, the lymphocytes may show a more or less normal appearance. Likewise, very often we shall miss the diagnostically elevated heterophil agglutination unless it is done frequently. That is not feasible from a financial standpoint for most patients; so if we are going to pick an optimum time for heterophil agglutination, it is between the ninth and the fifteenth day of the disease. Most often during this period it will be a "positive" test; at other times negative.

As to Dr. Davis's question about the incidence of serological reactions suggestive of syphilis, there has been much work done on this problem; but I do not know of any conclusive results that have been reached. The findings are temporary, however, and in finding the positive serological test for syphilis I think this possibility should be borne in mind before making a diagnosis of syphilis. The complexity of antibody formation in Infectious Mononucleosis gives rise to nonspecific agglutinins for typhoid, paratyphoid, and brucella organisms. A rise in "cold" agglutinins has also been noted. The mechanism for such occurrences remains a debatable subject.

I am sorry I cannot give more information in answer to the question.

New Sulfone Drug Used to Treat Skin Disease.

Diasone (trademark), one of the newer sulfone compounds, has been used successfully in the treatment of dermatitis herpetiformis, a fairly common, serious, chronic skin inflammation, it was reported in the Archives of Dermatology and Syphilology. Thirteen patients with the affliction improved decidedly or had complete remissions while taking the drug, according to Dr. Theodore Cornbleet, a Chicago dermatologist and professor of dermatology at the University of Illinois College of Medicine. Dr. Cornbleet stressed, however, that the drug was not a cure.

Until the advent of sulfa compounds and antibiotics, dermatitis herpetiformis was considered relatively uncontrollable. The cause of the disease is unknown, but because of the effectiveness of these drugs, it is believed that the disease is the result of an infection somewhere in the body, he said.

The treatment of those suffering from the affliction was begun with small doses of the drug to prevent toxic side effects. If no symptoms of intolerance appeared, the dosage was increased gradually to three or four tablets of 0.3 grams a day. Dosage of at least two tablets a day was found necessary for improvement.

The period of time the patients remained on diasone ranged from three months to two and one-half years. The report pointed out that relief was received only so long as the drug was used.

Dr. Cornbleet stressed the fact that the drug should not be used unless the physician has the opportunity to keep the patient under observation in event of toxicity.

WHAT IS THE ROLE OF THE NON-PSYCHIATRIC PHYSICIAN IN THE MANAGEMENT OF EMOTIONAL STRESS?

CHARLES G. CRADDOCK, JR., M.D.,*
Boston, Massachusetts.

The psychologic implications of a therapeutic procedure may play an important role in the response of the patient's illness. Those patients, in whom the functional impairment of an organ or the total organism is in part due to deviations from "normal" mental health, require procedures more specifically directed towards an understanding and attenuation of these deviations. The problem of *if* and *how* this can be accomplished is a question of prime importance facing the general physician. It may be that the opinions of an internist who has spent some months in psychiatric study could help to delineate some of the obstacles to be overcome in bringing about a closer union between psychiatric and general medical thinking.

It might seem that the correlation of medical and psychiatric practice would be brought to focus in the realm of psychosomatic medicine. The term alone denotes a union of the two disciplines, and the type of research utilized by investigators in this field is directed towards elucidation of the influence of altered emotional states on the function of various organs and metabolic complexes. Since the ultimate application in medical practice of the information derived from these studies depends upon an understanding of their value, it behooves one to examine this research and formulate opinions. As an example of psychosomatic research, let us take the series of articles on peptic ulcer in the excellent, A.R.N.M.D. book, *Life, Stress and Bodily Disease*[1].

The objective evidence in these and other papers, collected by ingenious physiologic methods under varying degrees and types of psychologic stress, is most impressive. It leaves no doubt that emotional responses to stressful stimuli are accompanied by changes in end-organ function. The findings of Margolin and his associates and Mirsky *et al*, are of particular interest since they strongly suggest that conscious manifestations of feeling, such as rage, guilt, resentment, etc., cannot be taken at face value. They contend that the interpretation of the physiologic response of the stomach to noxious stimuli must include a study of the unconscious meaning of the stimulus, that is, psychoanalysis. They do not believe, as the non-analytic investigators, that simply knowing the patient and how he handles stressful phenomena warrants acceptance of his expressed "feeling state" as indicative of his true emotional response to the stimulus. Margolin *et al* found the gastric response to the same stimulus different, depending in part upon the patient's awareness of the repressed meaning of the stimulus. This was despite the fact that objective behavior and the verbalization of the patient as to how she felt were similar during different phases of the experiment.

Such findings imply incompleteness of previous psychosomatic experiments concerning the association of specific emotional patterns with changes in gastric function. They further have disturbing implications as to the validity of conclusions drawn from many types of human experimentation. However, the fact that psychoanalysis is inherently individual and highly personalized renders difficult the acceptance of data obtained by this method as objectively valid and vertifiable. Certainly the findings of psychoanalysis would be less open to criticism by other investigators if, for this type of experimentation, methods could be devised to satisfy the demands for controlled and checked data.

The differences between these two schools of thought have been discussed in some detail because they point up the difficulty which confronts the general physician in assessing the clinical usefulness of the findings of psychosomatic research. They high-light confusion as to where he fits in.

It can be hoped that the continued compilation of more and more correlative data as to cause and effect will allow a gradual resolution of this problem. At this time such a goal is so distant as to be almost invisible. To date, "specific" measures available to the general physician are limited to medical or surgical interruptive procedures in the chain of neuronal events between the cerebrum and end-or-

*Teaching Fellow in Psychiatry, Massachusetts General Hospital, Instructor in Medicine, University of Virginia Hospital, Markle Foundation Scholar in Medical Sciences.

gan, e.g., autonomic blocking agents, vagotomy, sympathectomy, etc. Such procedures, although highly adjunctive and palliative in some cases, certainly do not approach the ideal of definitive therapy. Also, their role is greatly restricted in scope, they cannot be used preventatively and the improvement does not always outweight the complications. The implications of hormonal therapy, such as ACTH and cortisone, remain to be evaluated. As yet, they are empirical and non-specific, though occasionally highly effective agents in some psychosomatic diseases.

Psychotherapy is a logical approach to the bulk of those patients whose illness is mainly due to emotional disturbances.

The question then follows, does preconceived understanding of the psycho-dynamic development of such disease as duodenal ulcer lead to therapeutic technics that are more effective and more rational than those already used by the average physician, and briefer than those used by the psychoanalyst? This is an all-important question concerning which there are many pros and cons. For example, if it were established that all patients with duodenal ulcer within a specified personality and physiologic category as to age, sex, duration of symptoms, gastric secretion and motility, body type, parental, family and sibling relationships, psychometric pattern, etc., if it were established that all people in such a category had repressed need to be fed with dependence and love by a rejecting mother (or symbolically breast fed), which wish was being repressed because of fears of retaliation by a protective wife and loss of status, thus leading to a state of constant gastric hyperactivity, would a short cut in interpretive psychotherapy then be possible in this group of patients?

From what some psychoanalysts tell us, it would not. Even if the analyst collects enough evidence to make a correct interpretation in a particular case it may be many months before the patient has "worked through" the interpretation and has benefited by same. Thus, Fenichel[2] writes: "It has been asked why we (the analysts) cannot, in order to shorten analysis, make use of advances in the special theory of neuroses which enable us to recognize at once from the diagnosis the typical instinctual conflict from which the patient is suffering. The desire is to make the analyst's knowledge immediately utilizable in practice by means of early interpretation of the determining conflicts. *But that is impossible.** First, what is necessary is the recognition not of 'the Oedipus complex' but of the unique origin and form of a particular Oedipus complex."

Fenichel was speaking here of neuroses. Many psychiatrists feel that the psychologic mechanisms involved in psychosomatic diseases are even more difficult to use analytically. Many are hesitant to even attempt interpretive psychotherapy in these patients. However, this gloomy acceptance of orthodox psychoanalysis as the only rational, proven psychotherapeutic approach is certainly not shared by all analysts. There are those such as Alexander, French, Deutsch, Cobb, Finesinger, Romano, Diethelm and others, who do not believe that complete psychoanalytic comprehension by the patient of unconscious forces is always mandatory to relief of his symptoms, at least to a degree which enables him to function usefully and without marked disability. These men have developed technics of psychotherapy which, though based upon psychoanalytic theory, are more rapidly applied because the therapist does not endeavor to attain the "ideal" of enabling the patient to completely unburden himself from the oppressive weight of unconscious conflicts, complexes and tensions. Rather, these investigators seem to aim for the more limited goal of attenuating the effect of those particular repressed forces which are relevant to disabling symptoms.

The attenuation may be effected in several ways, for example: (1) by limited insight into the unconscious meaning of the particular organ dysfunction or symptom complex; (2) by a better understanding of the precipitating factors in the patient's environment which intensify the repressed conflict and hence the symptoms, and clarification with the patient as to why these factors are precipitating; (3) if necessary, the alteration of environmental influences, directly through the patient or indirectly (as through a social worker), with or without awareness by the patient of the meaning of the alteration, (Note the work of Dr. Erich Lindeman;[3,4] (4) if other measures are for some reason unfeasible, by simple encouragement and reassurance with the realization that the symptoms will not be improved but with the aim of making it more endurable for the patient to live with his symptoms. This latter more restricted approach is similar to that frequently

*Italics mine.

used by the general physician.

These therapeutic concepts are not so far removed from those that are used in the management of some medical or surgical conditions. For example, if an internist is confronted by a patient with diabetes mellitus, he follows a definite plan of action. First, he formulates in his own mind the salient features of the particular case: the patient's age, general condition, the severity of the disease and the number of diabetic complications present, the financial and social status of the patient, his intelligence and *willingness* to cooperate, his *ability* to cooperate, depending upon his responsibilities, etc. The doctor then informs the patient, because the patient's cooperation is mandatory for the fulfillment of good therapy. How much the doctor informs him of the meaning of the symptoms, the prognosis, the possible complications, etc., depends upon all the afore-mentioned factors. Although the more intelligent insight and cooperative spirit the average diabetic has the better, the doctor's management is not governed entirely by these factors. The doctor may desire first to have an obese patient lose fifty pounds in weight before he begins insulin. The patient may lose the weight, require no further therapy and thus fulfill the ideal of treatment. On the other hand, he may not and may require large amounts of insulin and be poorly controlled in spite of the doctor's best efforts. He may then investigate and change the environmental factors involved, which have been shown so clearly to influence carbohydrate metabolism[5,6]. His methods may be similar to those used by the psychiatrist, and if all these measures fail, he may be forced to resort entirely to encouragement, reassurance and other forms of support. The important thing is that the physician is willing to continue to treat the patient over a long period of time although he knows he cannot promote a cure, or even a great improvement. He is grateful for the fact that he can at least do *something* for the patient. The same philosophy should be present in the management of patients with a greater share of emotional disturbance.

There is, however, difficulty in making an acceptable analogy between the management of patients with a preponderance of their symptoms on an emotional basis and those with a more clearly delineated medical or surgical disease, since the general physician's understanding of what he is able to do, when and how to do it, is so ill-defined in the former. He can legitimately point out that those men noted above, who successfully apply a briefer form of limited psychotherapy, are highly trained specialists with wide psychiatric experience. It is reasonable to ask, and desirable for the psychiatrist to answer, whether the proper use of such measures can be carried out by those not included in their category. It may be that the beneficial effect of such technics requires even more psychiatric knowledge than psychoanalysis, and the problem of selecting those patients who will be approached by one or another technic is perhaps even more abstruse. On the other hand, it is conceivable that the "intuitive" knowledge of the experienced physician might be admirably suited for such types of therapy if it were clarified and encouraged.

These, then, are some of the imponderables which face the physician who is interested in psychiatric thought and investigation. He has been repeatedly informed by psychiatrists that he is neglecting the "total patient" unless he takes into account the emotional life of the patient. He is greatly impressed by the power of "psychic influences" and "emotional stress". He is shown that they can ravage the integrity of the organism, leading to ulcerated stomachs and bowels, hypertension and cardiovascular disease, asthmatic lungs and serious collagen disorders. It is small wonder, therefore, that he feels frustrated when he tries to learn what he should do and encounters some of the many divergences of opinion and results such as that cited.

If he is unusually charitable, he will not develop resistance to following the progress of psychiatric and psychosomatic research and will continue to hope for clarification. He will appreciate that in this field of investigation the application of research technics useful in other fields is infinitely more complex and the pitfalls in the path of data interpretation proportionately greater. However, he cannot help but judge, from the complexity of human personality and the innumerable ramifications of modern man's emotional life, that it will take not years but decades to bring to the practitioner specific and economic measures he can use. Until then, what does he do?

As has been stated, there is a great deal of knowledge that may directly apply to the role of the average physician in the management of emotional disorders. Furthermore, it appears true that, given the time, the advice of a good psychiatric teacher and the

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inclination, the average physician is capable of quite effective psychotherapy. The fact that these forms of psychotherapy are limited in their goal, however, does not mean that they can be applied indiscriminately or unselectively. The realization of what he is doing to the patient is implicit in the doctor's management of any illness. He must be aware of the patient's deficiencies and assets, have a working concept of the psychodynamics involved, and the probable nature of the relationship which will develop between the patient and him. He must have some ability to judge which patients will not be helped, perhaps hurt, by psychotherapy that he can give. These are not small requirements. How they can be acquired by the average physician and if he should apply them would seem questions of crucial importance to psychiatric teaching. There are several projects directed towards this goal which are commendable. For example, the University of Minnesota project,[7] undertaken by the Commonwealth Fund in 1947, endeavored to bring a comprehensive, rational and interesting approach to the practicing physicians of that area. It was not the aim of the project to make all these men psychiatrists or to curtail their practice in other spheres of medical science. Rather, it aimed at filling the gap in the physician's ability to cope with the emotional problems of patients he saw in everyday practice. The physicians were very conscious of this gap and welcomed the opportunity of increasing their therapeutic acumen. Another interesting project, primarily for students and medical house officers, is that reported by Saslow at the Washington University School of Medicine[8].

As has been pointed out, there is ground for the development of resistance in the average physician to psychotherapeutic endeavors. Not only is he in doubt as to what can be done and how to do it, but he senses the ambivalence of the psychiatrists concerning whether he should or should not attempt psychiatrically oriented therapy in the first place. The psychiatrist's circuitous approach to this issue sometimes seems to reflect his own resistance. To enter the argument of whether or not psychoanalytic concepts should be employed by non-analysts is beyond the scope of this paper. The author is aware that strong feelings exist against such usage. He believes the facts are self-evident, however, that all doctors perform psychotherapy, whether or not it is oriented as such, and that the sick patient in whom the emotional disturbance is a factor is entitled to some attempt at rational management in this direction. Therefore, if psychoanalytic concepts are valid, they *will* be applied in one method or another. It would be preferable to have them used to the patient's advantage.

It might be profitable to examine more closely this resistance on the part of the general physician. What forms does it take and what are the steps in its evolution which might be subject to change before the defense mechanisms have become so strong that they are held very dear to the physician and can only be removed with great difficulty, if at all? The internist, for example, encounters patients daily in whom he senses a large emotional factor. All too often he feels damned if he admits the recognition and damned if he does not. It might occur to him to try to handle the patient himself; it more probably occurs to him that he needs the help of a psychiatrist. He is aware of the marked limitations on psychiatric treatment hours available. He has seen many psychosomatic and other patients who have been exposed to hurried, unskilled psychotherapy, and he is skeptical of what can be done.

His attitude towards psychotherapy in such cases will probably follow one of two directions:

1. He closes his mind entirely to the importance of the emotional life of the patient, beyond the most blatant reality problems. He exhorts his friends and patients not to believe any of that stuff the psychiatrists say and that all one has to do is use his common sense. He slaps the patient on his back, commands him to "buck up" and face things courageously. By simple reassurance and devaluation of the importance of emotional conflicts he satisfies, undoubtedly, a certain percentage of his patients—at least temporarily. (If he did not, he would go out of business since 60-80% of his practice is wholly or in part psychiatric.) Therefore, there is nothing fundamentally wrong with how he helps his patients, except that he is unaware of the mechanisms whereby he helped them and does a disservice to the good name of psychiatry in so doing. There is, however, something fundamentally wrong with the way he handles those patients whom he does not help by this method. The wrong is that he further strengthens the resistance defenses of the neurotic or pre-psychotic patient by making even more unacceptable the thought of seeking psychiatric help. This may

prevent the patient from so doing until he is past the phase when he could be reasonably benefited by psychotherapy.

Fortunately this type of attitude seems to be less in evidence, though it is still commonly seen. It is not relegated to the older generation of doctors, a point which is expounded hopefully in discussions of this topic. This viewpoint is encountered daily in the younger medical generation from many different medical schools.* Its widespread presence represents a failure in psychiatric and medical teaching.

2. There is another attitude which may develop; one which is even more understandable and deplorable. The physician intelligently recognizes the prevalence and importance of the emotional life of his patients. He is able, without much difficulty, to segregate the profoundly neurotic or pre-psychotic individuals and refer them quickly to the psychiatrist for disposition. He is aware of conditions in a large group of his patients which would best be dealt with by a skilled psychotherapist, but this is prevented by the marked disproportion between the number of patients and the number of psychiatric treatment hours (not to mention prohibitive expense). However, aware that *something* must be done, he endeavors to investigate the emotional factors involved as adequately as possible under the limits of time and the patient's cooperation. What then happens? First of all, the patient may improve to a certain extent. (Although I am not aware of any statistics on this very important point, it may be that the percentage of improvement approaches that of psychiatric psychotherapy.) On the other hand, any number of disconcerting events may occur, such as a precipitation of acting out in the transference or heightened anxiety because of removal of some repression mechanism allowing awareness of socially unacceptable drives. The physician will probably become panicky himself at this point, reject the patient and find the whole process intolerable. It is unlikely that the physician will be eager to undertake such a maneuver again, and, consequently, he regresses to an attitude similar to #1. The psychiatrist who then receives the acutely ill patient is quite likely to consider the physician's handling of the case ill-advised and to piously denounce the dangers of amateur psychiatrists. Thus, everyone is unhappy, and the rift widens between two systems of therapy which should not exist independently.

It is precisely at this point that much could be accomplished if liaison were better. The psychiatrist could show the practitioner that such a reaction on the part of the patient might have been expected because such and such took place. He could explain how such behavior need not mean therapy was failing but was an indication of the effectiveness of the doctor-patient relationship. He might point out how the physician could proceed to handle the situation and advise him as to the best level to keep his interviews. In this way, it is possible that a potentially worthwhile therapeutic situation could be saved, thus saving the patient much time and money, saving the psychiatrist a difficult therapeutic problem because of the broken relationship, and, most important, saving the physician's self-confidence and interest. Of course, the psychiatrist might decide that the illness was serious enough to require more intensive therapy, in which event he would either take over treatment or help the physician dispose of the case. In either circumstance, the psychiatrist should act primarily as an advisory consultant, bearing in mind first the problem as it relates to the patient and his therapist.

The development of these resistant attitudes on the part of the non-psychiatric physician certainly does not serve the best interest of the patient or of medicine. Where the fault lies is relatively immaterial to improvement of conditions. As in any controversy, there are many cases-in-point on both sides. Nevertheless, it is primarily the responsibility of psychiatry to take the initiative in bringing about better understanding and cooperation. If psychiatrists are motivated to improve the mental welfare of the patient population, they must accept the fact that, because of the tremendous scope of the problems, any really significant step forward must be brought to the patient largely by the general medical personnel. How else can improvement in the management of common psychiatric conditions seen in everyday practice be brought about? As Dr. C. C. Burlingame has expressed it[10]: "I am certain that most preventive psychiatry is, or will come to be, practiced by men in the other branches of medicine. It is they who have the opportunity to prevent psychiatric conditions so far as they are preventable."

In many teaching institutions, with some notable exceptions, the teaching of psychiatry is relegated

Note the interesting study from Duke University Medical School.

to the psychiatric department exclusively. The members of other departments are for the most part subject to an attitude similar to the ones described. Yet, these men (the surgeons, pediatricians, internists, radiologists, etc.) are the ones most readily accepted by the students as examples of the clinician with the knowledge to expedite healing in dramatic fashion. It is understandable that the ambitious and uncertain student should identify with the interests of these leaders. In doing so, however, he readily senses the uneasiness of his mentor concerning patients with psychiatric conditions. It is also apparent to the student that most of his instructors present a unified front of resistance to the routine of the psychiatric staff. This resistance may vary from blatant derision and obstruction to verbalizations of the importance of emotional aspects of disease unaccompanied by appropriate clinical management of such. No matter how veiled the resistance, the student perceives it. A few are not influenced by it, and a very few align themselves militantly with the psychiatrists, thus neglecting their study of other medical disciplines. Most react in a way similar to their mentors; that is, by rejection of patients with neuroses and a passionate preoccupation with discovering "organic disease" in all patients, even if what they discover is not significant. One hears on any ward or clinic such remarks as: "The more we study this patient without finding anything, the more I'm convinced he's just another crock". Such rejection of the patient is not necessarily out of malice, but results from fear—fear that the student or doctor does not know what to do with an emotionally disturbed patient and consequently will not be able to help him. Such a realization represents a threat to his assurance of his medical ability and consequently must be repressed. This results in rejection and refusal to admit that the patient has a legitimate complaint that warrants medical recognition.

This rejection, fomented in the student by the neurotic symptoms of the patient, may deter, paradoxically, the discovery of the wished-for structural lesion which also may be present. The young doctor feels under considerable pressure by his colleagues not to miss "organic disease". Certainly highest value should be placed upon accurate diagnosis, but, because of the pressure he is under, the student often feels obligated to slot patients in one of two categories —"organic" or "functional" by a process of diagnostic *reductio ad absurdum*. The pressure would be vitiated if he were taught to treat the patient as he is, without emotional bias, keeping his mind open to any worthwhile lead to diagnosis and realizing that even the best clinician occasionally makes a mistake in diagnosis. The fruitlessness of always distinguishing between "organic" and "functional" disturbances where it makes very little difference to the patient's distress has been pointed out many times. The subject is discussed graphically by Dr. Stanley Cobb in his book, *Foundations of Neuropsychiatry*.[11]

When such conditions exist in a medical school, the psychiatric staff, no matter how adequate as teachers, has a difficult task in dispelling these attitudes from the student's mind. Obviously, corrective measures must be directed towards the general medical staff as well as towards the student. Establishment of a good relationship of cooperation, understanding and mutual respect between the psychiatric staff and the members of other specialty groups would represent the biggest step in improvement of the student's ability to confront emotional illness. Such a cooperative relationship must go beyond the "lip service" level and be carried over into the practice of clinical medicine and investigation. The dispelling of the student's fear of involvement in the emotional aspects of an illness, the fostering of respect for the psychiatrist's aims, the incorporation of the psychiatric staff in the management and study of clinical problems on an equal basis, all go a long way towards encouraging the prospective doctor to take an interest in the total patient and to treat him accordingly, rather than merely espousing an interest in psychosomatic medicine. Once interested in the subject, he would rapidly learn to know what he can and cannot do for the patient, what a psychiatrist can and cannot do, when it is better to leave well enough alone, etc. Most psychiatrists will state that such knowledge cannot be learned by didactic teaching of any sort, but must be learned by experience. If this is so, and it seems so, then every effort should be made to encourage the experience for every interested doctor.

Thus, there should be more encouragement of physicians in their attempt at psychotherapy, no matter how crude. The psychiatrist should be more available as a consultant, not necessarily for the disposition of a case, but in the true medical sense: as an

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advisor to the physician to aid him in handling the case. The argument that psychiatry does not have enough time to function in this capacity should not continue to serve as a rationalization for not doing so. It is possible that by greater dispersion of the psychotherapeutic effort the psychiatrist would have more time to serve as an advisor, teacher and consultant. This function of the psychiatrist presupposes a willingness by the physician to give psychotherapy. It should not be expected, nor desired, that the psychiatrist take over the therapy of every neurotic symptom about which he is consulted. Only those cases which he deems so serious as to be beyond the limitations of psychotherapy offered by the physician should be taken over for treatment or disposition. This is the working arrangement for other consulting specialties, and it should be further explored by psychiatry. Only by enabling the physician to gain experience and confidence in dealing with emotional problems *in vivo* will the quality of his therapy and judgment be improved. Only then will liaison be truly bipartisan.

It would happen, no doubt, that many mistakes would be made by the physician and that many patients would seem temporarily worse. Some psychotic breakdowns would be precipitated. In learning the clinical application of any discipline a certain amount of suffering must be endured by the therapist as well as by the patient. But the increasing experience and ability of the physician would ultimately enable him to help a far greater segment of emotional disorders. The effect on the adequacy of medicine to cope with this huge problem would be greatly augmented. An improvement in medical education, because of the better understanding by the non-psychiatric specialties, would follow. I believe it is generally true that physicians of every specialty and type are eager to utilize to the advantage of the patient any established therapeutic measure. Unfortunately, the majority of patients have some neurotic aspects in their disease and are not receiving adequate treatment. The extent of psychiatric knowledge is far from ideal, and the applicability of what is available is often difficult. Nevertheless, the utilization of psychiatric principles to the fullest extent possible by a large segment of the medical profession would represent a major advance in the success of medical practice and preventive psychiatry. This should be a major aim of psychiatric research; i.e., to discover methods of building cooperation with other members of the profession, to make available to all who ask for it guidance at a practical, consulting level, to encourage the use of logical, understandable technics by the average physician, and to remove some of the cloak of danger which to the average physician surrounds the recognition and management of emotional disorders. Psychosomatic research up to the present has been concerned chiefly with proving by objective, physiologic experimentation the profound effect that emotional stress exerts on organ function. The data are most convincing, and prior to this orthodox psychoanalytic investigation had formulated the scientific basis of psychotherapy. It now seems mandatory that psychosomatics and psychoanalysis shift from the laboratory or analytic couch, where they have evolved broad, pathogenetic relationships, into the realm of demonstrating clinically the value and flexibility of their principles in the practice of medicine by the general medical profession. The fact exists that in order to have any measure applied therapeutically, the doctor first must be willing to apply it; second, must know how and when to apply it; and, third, must know what the expected good results and possible ill effects may be. The average doctor has a very foggy notion of any of these conditions with regard to many sound measures presently available. He can hardly be expected to use with interest and judgment measures of the future developed from psychiatric research. This, then, would seem a most important area for psychiatry and psychosomatic medicine to concentrate effort.

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PAUL PORTAL

Portal, Paul, d.1703. La pratique des accouchemens soutenue d'un grand nombre d'observations composée par Paul Portal, Maître Chirurgien Juré n.d.

This is the second part of *La biblioteque des acoucheurs et des sages-femmes,* published in Geneva, 1693. The other parts of this work are Mauriceau's *Traité des maladies des femmes grosses,* & de celles nouvellement, acouchées, and a Dissertation curieuse sur la generation, & la nutrition du fétus la matrice suivant l'opinion des Modernes.

In the preface of the combined work it is stated that Portal's observations seemed to have been made especially so as to make Mauriceau's *Traité* a complete work. It seems a plausible assumption that thus combining the two works may have influenced Mauriceau to publish his own Observations which he did in 1695.

My copy has the original binding. The Miller Library has the same work without the text of the *Traité* but with the illustrations scattered through the text of Portal's *Practique.* It has the preface to the three parts of the *Biblioteque* as well as the title page. The binding is old but is not the original binding. It seems likely that the text of the Mauriceau part was lost and the binder put the illustrations where he thought they belonged. The Miller Library has the original Paris ed. 1685, a Dutch ed. 1690 and an English ed. 1753.

Cumston (*Am. J. Obst.* **51**:778, 1905) says that Portal was born in Montpellier about 1630, for he entered the Hôtel-Dieu in 1650 and students there were required to be over 18 years of age. He attended Mauriceau's lectures for 13 years. Cumston gives a good description of this famous Paris hospital as it was about this time. The patients were crowded together 4 to 6 in a bed. There was no attempt to separate the pregnant women from those who had been delivered. Only the syphilitic or "spoilt" women, as they were called, were isolated. The midwife was not allowed to attend these. In cases of difficult labor the midwife called upon the master surgeon or, in case of his absence, upon his first companion surgeon. In 1659 Portal was designated to deliver the "spoilt" women and he was also chief of the companions. In 1663, his 6 years' service being up, he left the hospital a master surgeon.

Portal is justly esteemed for his practical knowledge. He taught that version can be done by one foot and that face presentations usually run a normal course. James Pratt Marr (*Bull. Hist. Med.* **9**:258, 1941) says that Portal was the first to recognize the true nature of placenta previa (observations 2,29,39,41,51,55,43, 70). Whereas Paré, Guillemeau, and Mauriceau recognized placenta previa, they thought that it was due to a prolapse of the organ from a higher attachment.

M.P.R.

MEDIASTINAL TUMORS: ROENTGEN DIAGNOSIS

F. B. MANDEVILLE, M.D.,
Richmond, Virginia.

If one considers the mediastinum to lie between the right and left pleurae in and near the sagittal plane of the chest and to extend from the sternum in front to the vertebral column behind, we can begin anteriorly to consider the roentgen problems encountered in the diagnosis of obsure masses of this region.

A pulsating mass with bone destruction in the whole of the gladiolus of the sternum in a middle aged negro laborer most certainly would incite clinical considerations of an aneurysm eroding through the anterior chest wall. Our first case, however, showed osteolysis with only slight encroachment on the anterior mediastinal space for a matter of millimeters. The clinical diagnosis was liposarcoma, the roentgen impression primary osteolytic sarcoma, and, following surgical excision, the pathological diagnosis was metastatic hypernephroma. The case was closed with the demonstration of a left renal hypernephroma and the appearance of multiple metastatic nodules in both lungs soon after the operative procedure.

Hypertrophy of the thymus in infants deserves for diagnosis postero-anterior films at 6 foot target-film distance, and also direct lateral views with the arms held posteriorly so that the trachea and its surrounding tissues are clearly demonstrated. Fluoroscopy at all phases of respiration should supplement the film examination. If definite narrowing, kinking or buckling of the trachea and an anterior mediastinal mass are demonstrated in an infant, from one to three doses of 100 r of moderate voltage roentgen therapy should produce regression in the mass within a few weeks. Our plea is to give the radiation therapy an opportunity to diminish the radiosensitive thymus. On two occasions recently thoracic surgeons have been anxious to perform thoracotomy with consideration of thymectomy before the small doses purposely employed in tiny growing children have had an opportunity to show its effect on serial roentgenograms.

Malignant tumors of the thymus, both epithelial, mesenchymal and mixed are discussed in the literature under terms such as thymoma, lymphoma, Hodgkin's disease and so on with varying opinions concerning their response to radiation.

The first case, a carcinoma of the thymus of resistant type is illustrated by a series of films over a 5 month period with no response to roentgen therapy even after partial removal of the tumor and the application of doses of 1,000 r to the tumor through an operative wound anteriorly.

The second case, a mesenchymal tumor of massive proportions showed a theatrical immediate response, so that the second film shows as narrow an upper mediatinal shadow as one could theorize to exist in an adult.

The third case, a mixed tumor of the thymus, of epithelial and mesenchymal elements, as described by Eisenberg and Sahyoun,[1] showed slow but progressive response—in other words, a moderately sensitive tumor.

Roentgenologically, substernal extensions of the thyroid and all sorts of intrathoracic thyroid masses are frequently most difficult to diagnose, all the thoracic surgeons in the world to the contrary notwithstanding. There is too much quibbling over definitions of "substernal" and "intrathoracic". There is too much reliance on the newer methods with tracer doses of radioactive iodine and topographical Geiger counts in 24 hour periods, which may sometimes be of value. I have had postero-anterior and direct lateral projections and fluoroscopic findings identical in an aneurysm of the transverse aorta and in an intrathoracic thyroid. This is not surprising to me as I have seen a thoroughly trained and experienced thoracic surgeon inspect, palpate, dissect around and biopsy a profusely bleeding thyroid without his being sure of its nature until receiving the frozen section pathological report. At least half of several series of intrathoracic thyroids show them to be posterior to the trachea.[2]

The classification and radiation response in the various malignant lymphomas have been touched upon by us with others[3] elsewhere. Various lymphosarcomas may show rapid response in from one to eight days following deep roentgen therapy in doses from 200 to 600 r and complete regression of masses with the latter dose up to 1200 r is common in our

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experience. Hodgkin's disease will respond more slowly but may well disappear locally with similar dosage.[4]

Primary sympathoblastoma[5] and metastatic sympathoblastoma[6] may be found in the mediastinum and not necessarily well posterior, as best illustrated by the mid-mediastinal mass of the case of a young man in severe respiratory failure with pressure below the carina narrowing both bronchi and trachea.

Plexiform hemangiomas may simulate the lymphomas in the mediastinum. A case in point is that of a young girl with respiratory distress who responded to 10 deep roentgen treatments of 200 r each. Following 2,000 r surgical extirpation of all the tumor was attempted but 2,000 r more radiation was given as all the mass could not be removed. The first pathological diagnosis had been Hodgkin's disease of the thymus, but a second opinion failed to agree on the nature of the tissue, on many of the cells involved in the diagnosis, or in the benignancy or malignancy of the tumor. A leukemoid or leukemic blood picture developed before the terminal event.

Teratomas containing teeth, bone and various mixtures of fundamental tissues more commonly are found in the anterior mediastinum and more often on the right side. One of our cases appeared to originate more in the right middle lobe than in the mediastinum. The cystic appearance, position anteriorly in the chest, lobulated margins and tooth within the mass made the roentgen appearance fairly typical.

Dermoid cysts may radiologically simulate pericardial celomic cysts so completely that the films of a case of each entity when placed side by side in x-ray viewing boxes cannot be differentiated. The cysts are lobulated with convex densities to the right and anteriorly merging with the cardiac shadow and of the same radiographic density as the heart.

Rhabdomyosarcomas of the heart are associated with pericardial effusions. If only a small amount of bloody pericardial fluid can be obtained by tapping and air introduced into the sac fails to surround the heart adequately and outlines masses continuous with the heart, a tumor may be suspected. I have seen three such cases in 25 years, proven with adequate pathological specimens.

Bronchogenic cysts occur in the upper paratracheal region and in postero-anterior views may lie close to the mediastinum so that in one of our cases the ovoid mass resembled a group of tuberculous mediastinal nodes. The lateral view showed the dense well circumscribed mass to be in the posterior segment of the right upper lobe closely associated with and narrowing the adjacent bronchus.

Carcinoma of the esophagus seldom can be visualized on plain chest films but the metastases may exactly simulate a substernal extension of the thyroid and be large enough to exert pressure on the esophagus and trachea above to prevent diagnostic esophagoscopy and bronchoscopy. There was also pressure on the recurrent laryngeal nerve producing hoarseness.

Benign tumors of the esophagus such as leiomyomas can be large enough to give mediastinal densities and well made roentgenograms but barium in the esophagus is usually necessary for adequate demonstration.

An echinococcus cyst may show an oval mass merging with the upper mediastinal shadow and fill the apical region of the thorax exactly like a carcinoma of the lung or any other superior pulmonary sulcus tumor as described by Pancoast. The geographic and occupational data showing the patient to be an Australian sheep herder with a positive Casoni test can prove to be of more importance in diagnosis than mere roentgenograms.

Multiple saccular aneurysms of the thoracic aorta give bilateral lobulated densities along the central mediastinal shadow which can frequently mimic malignant lymphomas in all views with and without a barium filled esophagus. We have described these elsewhere[7].

Enormous aneurysms, especially of the descending thoracic aorta, can so fill the thoracic cavity that they may simulate cysts. I have in mind a case where a 70% diodrast injection in the median basilic vein with films failed to fill the aneurysm because of enormous clot and bronchograms failed to aid in diagnosis. A roentgenogram made seven years previously was much more helpful in showing the sac of the aneurysm when it was small in size and well delineated. Films of the ribs and spine for bone detail do help tremendously in demonstrating the erosions of pulsating masses.

Diaphragmatic hernias, more especially through the foramina of Morgagni or Bochdaleck can make mediastinal diagnosis difficult unless barium meal

and enema studies and varous positions are utilized to their fullest.

Primary and metastatic malignant tumors, solitary and multiple, have been discussed elsewhere[8,9] and pose many problems as yet unsolved. Multiple neurilemmoma riddling both lungs and mediastinum can exactly mimic malignant metastatic tumors. They need not be posterior in position although several ganglioneuromas in our series were single, apical and posterior. Thinning and erosion of adjacent ribs does sometimes occur.

A large nodular chondrosarcoma arising from the right side of the ninth dorsal vertebral body looked exactly like a single metastatic malignant nodule on a postero-anterior chest roentgenogram. Lateral views showed it to arise from the vertebral body and lipiodol in the spinal canal showed a complete block at the level of the tumor. I have seen giant cell tumors and Ewing tumors simulate this particular case.

Finally, I can show a postero-anterior chest film which shows a rounded upper left mediastinal appearing mass 3 cm. in diameter which formed the basis for a 100 mile trip to Richmond to consult a thoracic surgeon. A lateral view was then made and it shows the mass to be on the posterior chest wall pushing the skin posteriorly from the normal contour of the body—a benign lipoma which could be found by the older time-honored physical diagnostic methods of inspection and palpation and treated by simple excision biopsy.

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The diagnosis of tuberculosis has such dreadful implications to many patients that its pronouncement by their doctor often causes serious emotional reactions. Some patients fail to hear or comprehend the explanations and instructions that follow the statement of diagnosis, some patients show deep resentment or refuse to accept the diagnosis, while others concentrate on the serious problems they must face in order to undergo treatment. G. Canby Robinson, M.D., Bull. Johns Hopkins Hosp., April, 1951.

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MUMPS MENINGOENCEPHALITIS*

ROY THAGGARD, M.D.,
Anniston, Alabama,
and
LEE E. SUTTON, JR., M.D.,
Richmond, Virginia,
Department of Pediatrics, Medical College of Virginia,
Richmond, Virginia.

The threefold purpose of this paper is, first, to survey briefly the literature on mumps meningoencephalitis; second, to report and analyze 57 new cases of this disease admitted to the Medical College of Virginia Hospitals between January, 1943, and March, 1951; and, third, to discuss briefly the modern methods of diagnosis of this disease. This is felt to be worthwhile since it emphasizes certain problems faced in the differential diagnosis between mumps meningoencephalitis and non-paralytic poliomyelitis.

One of the first clinical descriptions of meningoencephalitis associated with infectious parotitis was made by Monro[1] in 1883. Maximovitsch[2] in 1880 was the first to describe the pathology of this disease in patients dying during convulsions with parotitis. Monod[3] in 1902 was the first to demonstrate the occurrence of lymphocytosis of the spinal fluid in mumps meningoencephalitis and also even in cases of mumps where there was no clinical evidence of meningitis. Following the introduction of the lumbar puncture as a tool of diagnosis, there have been numerous case reports of this disease showing pleocytosis of the spinal fluid. A brief incomplete survey of the English literature since 1915 reveals at least 704 cases of this disease have been reported.

The two most tenable theories explaining the etiology of central nervous system involvement in mumps are: first, that the disease is due to involvement of the central nervous system by the mumps virus itself;[4] and, second, that an unknown latent neurotropic virus is activated in the central nervous system by the more or less benign mumps virus[5]. However, today, the first theory is generally accepted since the mumps virus has been isolated in this disease from the spinal fluid and saliva of patients with and without apparent parotitis[6,7]. Also Gordon[8] has produced a meningoencephalitis with corroborating pathological changes in monkeys by injecting intracerebrally a filtrate of gargle from an ordinary case of mumps. Montgomery[4] feels the mumps virus is a systemic virus which has a predilection for the salivary glands, meninges, brain, pancreas and mature gonads.

Donohue[9] has best described the pathology of mumps meningoencephalitis. He concluded that the pathological picture was somewhat varied. The brain and the cord may show only congestion. Meningeal infiltration may vary from a few lymphocytes to gross exudate. He also described perivascular infiltration with lymphocytes, perivascular demyelinization and neuroglial reaction.

The incidence of central nervous system involvement in mumps varys greatly in the literature. Eagles[10] found an incidence of 2.6% in 1,664 cases of clinical mumps, while Bang[11] reported an incidence of 23.1% in 458 cases of mumps.

The prognosis in mumps meningoencephalitis is generally considered good. The common complication is eighth nerve deafness[12]. It has been estimated that mumps has caused deafness in 5% of the institutionalized deaf in this country[13]. Other less frequent residual complications are: optic neuritis[14], ocular palsy[15]. hemiplegia[16], transverse myelitis[17], and minor mental changes[18].

Mumps meningoencephalitis may occur before, during, after, or even without parotid swelling. The most common time is during or 3-11 days after the parotitis.[13] However, cases developing central nervous system symptoms preceding parotid swelling are numerous in the literature.[11,13,20] Also Eberlein[13] found an incidence of 13% of meningoencephalitis without parotid swelling in 280 cases of this disease.

Between January, 1943 and March, 1951, there were 57 cases of mumps meningoencephalitis admitted to the Medical College of Virginia Hospitals. The distribution of this series of cases is shown chronologically in Table I. The majority of cases were admitted in 1950. Whether this increased incidence in 1950 is due to better recognition of this disease

*Read before the Virginia Pediatric Society, at Roanoke, April 6, 1951.

TABLE I

Year	1943	1944	1945	1946	1947	1948	1949	1950	1951	Total
No. of Cases	1	0	4	1	0	5	1	39	6	57

White Patients ..... 50 Male Patients 37
Colored Patients ..... 7 Female Patients 20

Age, Years	1	2	3	4	5	6	7	8	9	10	11	12	13	15	17	23	24
No. of Cases	2	6	7	1	7	6	7	6	4	1	3	2	1	1	1	1	1

Extremes: Youngest — 5 months Oldest — 24 years.

or due to a special strain of mumps virus which has a predilection for the central nervous system is not known. In this group there were 37 males and 20 females as compared to the usual 4:1 ratio of males to females, as cited in the literature.[21] Fifty of the patients were white and 7 were colored. The ages ranged from 5 months to 24 years with the majority of cases falling in the 2-9 year range.

The frequency of the signs and symptoms encountered in these 57 cases are shown in Table II.

TABLE II

FREQUENCY OF SIGNS AND SYMPTOMS IN 57 CASES

SYMPTOMS	NO. OF CASES
Fever	55
Nuchal Rigidity	49
Nausea and Vomiting	47
Headache	46
Parotid Swelling	39
Abdominal Pain	17
Change in Sensorium	9
Convulsions	2

These generally correlate fairly well with series of cases described in the literature, except for the high percentage of cases occurring without parotid swelling. The criteria used to include a patient in this paper were that he either have clinical meningeal signs and symptoms with parotid swelling or spinal fluid changes with either parotid swelling, history of exposure to mumps, or a significantly high complement fixation titer for mumps. The two cases in whom convulsions occurred were 5 and 20 months of age and had high fever. It was generally thought that these were febrile convulsions rather than caused by the virus of mumps in the central nervous system.

Table III shows the relationship of the central nervous system symptoms to parotid swelling. It

TABLE III

RELATION OF C. N. S. SYMPTOMS TO PAROTID SWELLING

C. N. S. SYMPTOMS	NO. OF CASES
With no parotid swelling	18
Absent with parotid swelling	1
Before parotid swelling	1
With swelling simultaneously	8
After parotid swelling began	29

EXTREMES

C. N. S. symptoms began 2 days before parotid swelling in 1 case.

C. N. S. symptoms occurred 26 days after parotid swelling began in 1 case.

should be noted that the central nervous system symptoms followed the onset of parotid swelling in the majority of the cases. The time range for these symptoms was from 2 days before parotid swelling to 26 days after parotid swelling began. Table IV

TABLE IV

DISTRIBUTION AS TO TIME C. N. S. SYMPTOMS APPEARED AFTER PAROTID SWELLING BEGAN IN THE 29 CASES IN THIS GROUP

*No. of days after parotid swelling began	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	26
No. of cases	1	1	6	2	3	4	2	4	1	1	0	1	1	0	1	1

*Average duration of parotid swelling: 7-10 days.

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shows the distribution as to the time the symptoms appeared after parotid swelling began in the 29 cases in this group. The largest number of cases showed central nervous system symptoms on the 3rd day after parotitis began and the average was on the 7th day after parotitis. Since 7-10 days is the average duration of parotid swelling,[22] the average case would be showing central nervous system symptoms as parotid swelling is disappearing.

Table IV summarizes the spinal fluid changes in relation to the complement fixation test (when done), occurrence of parotid swelling and history of exposure to mumps in the cases reported. Only the initial spinal fluid findings are recorded. The white cell count ragned from 1 to 22,500 per cubic millimeter with an average of 1,241 cells per cubic millimeter. The patient with only 1 cell per cubic millimeter was included in this series because the spinal tap was done early in the course of the disease and he later developed clinical signs and symptoms of meningitis along with parotid swelling. The patient with 22,500 cells per cubic millimeter had a history of exposure to mumps, with parotid swelling one week prior to admission. He also had meningeal signs and symptoms and the spinal fluid smear and culture for bacteria were negative. His white blood count was 15,000 with 47% polys, 45% lymphs, and 8% monocytes. The patient received no chemotherapy and was discharged on the 4th hospital day afebrile and asymptomatic. Lymphocytes were usually the predominating cells in the differential count with the average differential count being 74.2% lymphocytes and 25.8% polymorphneutrophiles. In 6 cases the polys outnumbered the lymphocytes. The highest protein was 200 mgm. % with the average being 58.8 mgm. %. In comparison to these figures, 100 cases of acute anterior poliomyelitis admitted during the epidemic of 1950 were chosen by chance and studied in regard to their spinal fluid changes on admission to the hospital.

The averages are shown at the bottom of Table V which tend to indicate that the number of white cells found are much less than in mumps meningoencephalitis. The differential shows a larger per-

TABLE V

CEREBROSPINAL FLUID CHANGES

No. of Cases	Year	Day of Tap	Cell Count	% P	% L	Prot. Mgm. %	C. F. Test	Parotid Swelling	History of Exposure
1	43	6	1195	26	73	70	N.D.	+	?
2	45	14	336	41	59	20	N.D.	+	+
3	45	2	140	22	78	35	N.D.	+	+
4	45	1	128	34	66	63	N.D.	+	+
5	45	2	140	22	78	35	N.D.	+	?
6	46	5	22,500	0	100	84	N.D.	+	+
7	48	1	1	0	100	15	N.D.	C Mening +	Signs
8	48	1	513	57	43	50	N.D.	—	+
9	48	2	215	20	80	26	N.D.	+	—
10	48	3	3030	93	7	200	N.D.	—	+
11	48	2	39	33	67	45	N.D.	+	+
12	49	4	880	44	56	160	N.D.	—	+
13	50	1	615	6	94	31	N.D.	+	—
14	50	2	330	16	84	20	N.D.	—	+
15	50	3	455	12	88	60	1:64	—	—
16	50	8	402	10	90	84	---	+	+
17	50	2	138	3	97	50	1:128	—	+
18	50	5	320	1	99	50	1:8	+	+
19	50	9	550	4	96	40	N.D.	+	—
20	50	2	173	72	28	37	1:64	—	+
21	50	4	310	40	60	35	1:128	—	—
22	50	3	390	3	97	35	1:128	+	+
23	50	7	183	2	98	30	1:64	+	—

No. of Cases	Year	Day of Tap	Cell Count	% P	% L	Prot. Mgm. %	C. F. Test	Parotid Swelling	Hitory of Exposure
24	50	19	40	40	60	40	---	—	+
25	50	2	238	12	88	61	1:8	—	+
26	50	1	140	10	90	60	E. -	—	+
27	50	2	490	46	54	50	E. -	+	—
28	50	3	121	2	98	46	1:16	+	—
29	50	4	5500	40	60	60	E. -	+	+
30	50	3	310	15	85	35	E. -	+	+
31	50	5	238	24	76	115	E. -	—	+
32	50	6	531	19	81	40	N.D.	+	+
33	50	1	670	36	64	60	1:32	—	+
34	50	2	109	13	87	25	E. -	+	—
35	50	7	700	5	95	92	1:8	—	+
36	50	1	2730	0	100	40	E. -	+	—
37	50	Mening. Signs No Tap				--	N.D.	+	+
38	50	11	960	13	87	108	N.D.	+	—
39	50	4	120	15	85	30	N.D.	+	+
40	50	6	224	65	35	95	1:16	—	+
41	50	8	5850	4	96	50	N.D.	+	+
42	50	8	183	43	57	38	1:8	+	+
43	50	1	340	25	75	28	1:32	+	?
44	50	3	2100	25	75	35	1:64	+	—
45	50	9	1050	12	88	100	N.D.	+	+
46	50	1	529	91	9	38	N.D.	+	—
47	50	2	213	31	69	40	---	+	?
48	50	12	636	20	80	40	E. -	—	+
49	50	8	51	32	68	40	---	—	+
50	50	26	334	66	34	46	1:64	+	+
51	50	7	245	37	63	75	N.D.	+	+
52	51	3	8900	15	85	75	1:16	+	+
53	51	4	207	15	85	25	1:16	+	+
54	51	8	1680	20	80	190	1:8	+	?
55	51	6	435	35	65	20	1:16	+	+
56	51	2	250	48	52	170	1:32	+	+
57	51	3	614	8	92	50	1:128	—	+
Average:		4.9	1,241	26	74	58.8			
			194	36	64	54.9	av. for 100 cases of polio. in 1950 taken by chance.		

centage of polymorphneutrophiles in poliomyelitis, while the protein values of the two diseases are nearly identical.

The complement fixation test for mumps was not done until 1950, and during a large part of this year the test was done by a modification of Eagle's serologic test for syphilis which proved to be unsatisfactory. For this reason the negative results lettered by a capital E in this table are not reliable. This method was superseded by the Kolmer method which gave satisfactory results. However, because of the early discharge of the patients, two successive tests approximately 2 weeks apart were not done.

As far as our follow-ups of these patients are possible, only 1 of these 57 cases has shown any residual difficulty following the illness. This was a 4 year old white male who still shows a residual muscle spasm and transitory ankle clonus in one lower extremity.

Other than the spinal fluid differences as cited above, the only differential points noted clinically between mumps meningoencephalitis and non-paralytic poliomyelitis were: first, that mumps meningoencephalitis patients do not appear usually as toxic and to have as much muscle pain and spasm in relation to the high number of white cells in the spinal

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fluid as poliomyelitis patients, and, second, that mumps meningoencephalitis patients seem to get more relief from central nervous system pressure symptoms following the initial lumbar puncture than do poliomyelitis patients. This second observation is noted frequently in the literature.[23,24,25,26] However, it should be said mumps meningoencephalitis without parotitis cannot be distinguished from non-paralytic poliomyelitis except by laboratory methods.[27] No attempt is made in this paper to discuss the differential diagnosis between mumps meningoencephalitis and other viral meningitides, such as lymphocytic choriomeningitis.

Frank[25] in 1943 probably developed first a diagnostic test for identifying the mumps virus as a cause of meningoencephalitis when he was able to inject spinal fluid from a patient with mumps parotitis and meningeal symptoms into the testicles of guinea pigs and produce orchitis. In 1945 Habel[29] successfully cultivated the mumps virus in embryonated chicken eggs. Using this method, Henle[30] was able to isolate and identify the mumps virus from the spinal fluid of a patient with meningeal signs without parotitis. It has been observed that the virus is able to agglutinate erythrocytes and on this basis an anti-hemagglutination test was devised in which a patient's serum containing antibody prevents this agglutination. Enders and Kane[31] have developed a complement fixation test which has proved to be a reliable means of detecting antibody late in the convalescent stage of mumps. Henle has since found two mumps antigens, the virus and soluble antigen. Early in the disease the antibody titer against the soluble antigen will rise, while only late in convalescence will the virus antibody titer rise. Therefore, tests which show a rising soluble antibody titer and a negative virus antibody titer are diagnostic of acute mumps virus infection.

Enders[31] has developed a skin test for mumps, using a suspension of attenuated mumps virus in which a postive test apparently indicates a previous infection by the mumps virus. However, this test was not used in our patients. Habel[32] also has developed a vaccine to prevent mumps in adults where its complications are undesirable. We have not used this vaccine since it is rarely worthwhile to protect a child against mumps.

In Summary:

1. Fifty-seven cases of mumps meningoencephalitis were reported and several clinical aspects of this disease were analyzed.

2. The following observations were noted from an analysis of these cases.

(a) Mumps meningoencephalitis is a more common disease than generally thought, but the cause of the apparent increased incidence is obscure.

(b) In this disease the central nervous system symptoms have their onset in the majority of cases 3 to 7 days after the onset of parotitis.

(c) Mumps meningoencephalitis occurring without parotid swelling is not infrequent, occurring in 31.6% of our cases.

(d) In our series, the patients with mumps meningoencephalitis had a higher white cell count in the spinal fluid with a greater percentage of lymphocytes than the acute poliomeylitis patients, while the spinal fluid protein values were nearly equal.

(e) Sequalae were rare, occurring in only 1.7% of our cases.

(f) The complement fixation test is a worthwhile diagnostic test for mumps, since 31.6% of our cases had no parotid swelling.

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New Books.

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Am. Academy of Orthopedic Surgeons — Instructional course lectures, vol. 8, 1951.

Brown, A. I.—Clinical instruction, Latest ed. 1949.

Cecil—Specialties in general practice, Latest ed. 1951.

Custer, R. Philip—An Atlas of blood and bone marrow, 1949.

Dunn, L. C., editor—Genetics in the 20th Century, 1951.

Fluhmann, C. F.—Medical treatment in obstetrics and gynecology. Latest ed. 1951.

Gregg, Donald G.—Coronary Circulation, 1950. Latest ed.

Heardman, H.—A way to natural childbirth, 1949. Latest ed.

Krusen—Physical medicine and rehabilitation. Latest ed. 1951.

Steindler, A.—Postgraduate lectures on orthopedic lectures and indications, Latest ed. 1950.

Thorn, G. W.—The diagnosis and treatment of renal insufficiency, 2nd ed. 1951.

Welch & Lewis—Antibiotic therapy, Latest ed. 1951.

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FRACTURE DISLOCATION STERNO-CLAVICULAR JOINT—
Case Report

R. D. BUTTERWORTH, M.D.,
and
ARTHUR A. KIRK, M.D.,
From the Department of Orthopedic Surgery, Medical College of Virginia,
Richmond, Virginia.

Dislocation of the sterno-clavicular joint is in itself rare, and posterior dislocation of the clavicle at this joint associated with fracture is extremely rare. This paper presents a case with description of the forces involved, diagnosis, reduction, treatment and five months follow-up.

W. E., a fifteen year old colored male in good health was playing football without shoulder guards on October 23, 1949. He fell forward and downward from a half standing position striking his right shoulder near the medial end of the clavicle on the hip of his opponent who was rising from a crouch. He felt sharp pain in the right sterno-clavicular region and could not use his arm. He was seen in the emergency room where he was examined and X-rays (Fig. 1) were taken confirming the clinical impression of dislocation of the sterno-clavicular joint. Lateral X-rays were not taken but it was agreed from clinical observation that the proximal end of the clavicle was posterior to the manubrium.

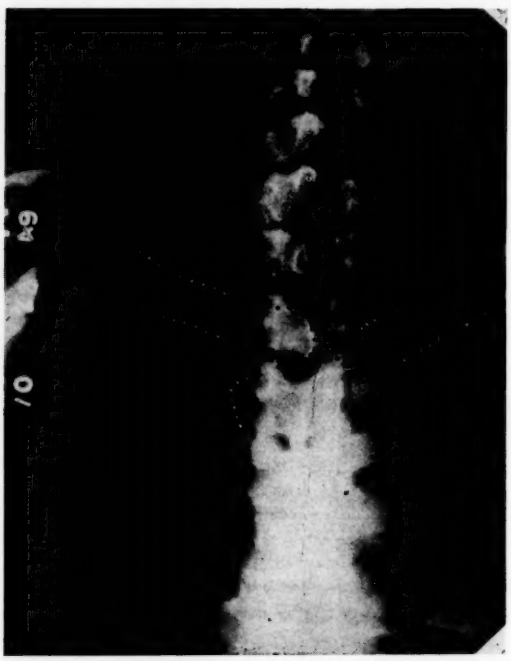

Fig. 1. On October 23, 1949, x-ray shows proximal end of right clavicle in the midline and slightly above the level of the proximal end of the left. Clinically, the proximal end of the right clavicle was posterior to the manubrium, and in the midline.

One attempt at reducing the dislocation was made but because of local pain it was not forceful. Therefore 20 cubic centimeters of 1 per cent procaine were injected locally into the right sterno-clavicular region using a short number twenty-two needle. With the patient on his back and his arm by his side, lateral traction was made on the arm at the axilla by an assistant. The proximal end of the clavicle was then grasped between the fingers and lifted up and over the cephalic end of the manubrium (towards the head and then anteriorly). Slight crepitation was felt and then the clavicle was felt and heard to reduce with a "cluck". The patient did not complain of pain during this procedure and did not appear to suffer. He was then told to pull his shoulder up and back and the clavicle was felt to subluxate posteriorly. A pad was then placed over the clavicle and a military cross belt type of adhesive strap was applied as described by Key and Connell[1]. The patient was discharged immediately after reduction.

On October 26, 1949, the patient returned to the outpatient clinic and a figure of eight bandage was applied. On Nov. 4, 1949, both the adhesive straps and figure of eight bandage were removed and the patient was advised to guard the use of the shoulder and arm. On Nov. 11, 1949, there was still a moderate amount of swelling at the joint but it did not subluxate clinically, was not painful on motion and was only slightly tender. On Dec. 9, 1949, X-rays showed only very slight subluxation of the joint with callus around the medial inch of the clavicle. Reexamination on March 22, 1950, showed no clinical subluxation on active or passive motion but painless

enlargement near the proximal end of the clavicle was still present. The patient did not complain of any pain or restricted use of the right arm. On examination by several orthopedists it was concluded that the patient had an excellent result. X-rays (Figs. 2 and 3) did not show evidence of subluxation.

DISCUSSION

Although the sterno-clavicular joint is oblique, it does not readily dislocate because of its protected location and the strength of its joint capsule. Even though it has been suggested that numerous roentgenograms are necessary for diagnosis, probably the most important are good posterior-anterior and a good lateral of the sterno-clavicular joints. Oblique posterior-anterior views may bring the joint out better

Fig. 2. March 22, 1950, oblique x-ray to bring the right sterno-clavicular joint into relief shows callus and slight deformity (top arrow) of the clavicle about one inch lateral to the joint five months after injury. This shows normal approximation of the clavicle to the manubrium as compared with the left sterno-clavicular joint shown in Fig. 4.

(Figs. 2 and 3). Even more important than X-ray is a good logical clinical examination, but if you want to prove it to disbelievers you must have good X-rays.

Although open reduction has been recommended in many cases, it was not necessary here because of the stability after reduction which must have been due to an incomplete tear of the capsule. It should be noted that the patient caused subluxation of the joint by pulling his shoulder back and up; therefore, in contrast to the usual clavicle injury a figure of eight bandage might cause the clavicle to redis-

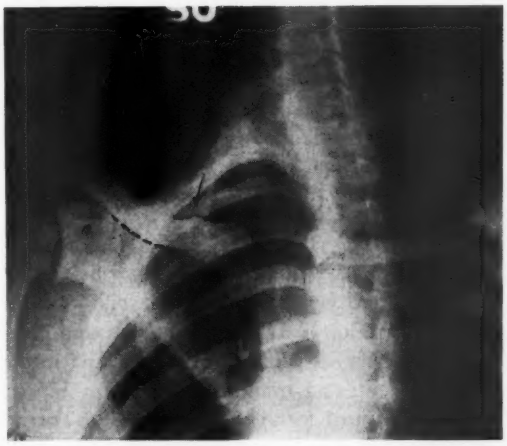

Fig. 3. March 22, 1950, x-ray shows oblique view to bring left sterno-clavicular joint into relief for comparison with the right (Fig. 4).

locate by pulling it out of its joint rather than holding it in. It was also felt that a military cross belt type of adhesive strapping with a felt pad over the clavicle should prevent the clavicle from again riding up and over the manubrium.

It is also believed that the arm should not be abducted in attempting to reduce the dislocation but that lateral traction should be applied in the axilla with the arm to the side because abduction of the

Fig. 4. X-ray December 9, 1949, shows proper lateral alignment of sternal ends of clavicles. This view is suggested, in retrospect, to determine by x-ray if the dislocation is anterior or posterior.

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arm puts the pectoralis major muscle on a stretch, thereby forcing the clavicle medially. Although a fracture is not seen on X-ray, the crepitation at the time of reduction and the callus observed by X-ray after injury suggests that the injury was a fracture dislocation although the fracture was not the predominating injury.

SUMMARY

Posterior or retrosternal dislocation of the clavicle caused by direct violence is presented with probable associated fracture. It was reduced, using local procaine anesthesia, with lateral traction and lifting the clavicle up and over the manubrium. Direct pressure was used to keep it in position. The resulting reduction was stable and the patient has experienced no appreciable handicap from the injury. It is believed that, because of the superficial position of the joint and the difficulty which the average person has in obtaining and reading X-rays of the joint, clinical examination is as important as X-rays in making a diagnosis.

Appreciation is expressed to Mrs. Cornelia Johnson for the X-rays and Mr. M. C. Shaffer for their reproductions.

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Floral Eponym

MENZIESIA

MENZIES, ARCHIBALD (1754-1842).

Archibald Menzies, a native of Perthshire, entered the ranks of surgery through the botanical gate. His brother procured for him a position as gardener in the Botanical garden of Edinburgh and, with the help of Dr. John Hope, the professor of botany, he took the course in surgery at the university. In 1778 he went on a botanical trip through the Highlands and the Hebrides; he practised surgery at Carnarvon. Later he joined the Navy and went as surgeon on the Prince of Wales on a fur trading voyage to the Northwest coast of America, returning by way of China. He was elected to the Linnean Society in 1789.

Menziesia is a genus of an American and Asian, small, desiduous shrub of the heath family.

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A REVIEW OF SLAVE CARE ON SOUTHERN PLANTATIONS

WILLIAM DOSITE POSTELL, LIBRARIAN,
Louisiana State University, School of Medicine,
New Orleans, Louisiana.

To the average person the ante-bellum South was a land of romance, a land covered with the Doric columned homes of the Greek revival, whereas in reality the South was no more covered with these homes than England was covered with medieval castles. In fact, life in the South was hard, frontier conditions prevailed. Only too often the planter's home was a log cabin, only a little more pretentious than the home of the slave. The spacious home depicted in fiction existed in only a few localities and they came late. The whole country was on the move. There was a frontier to be opened up. Families were separated—never to be heard from again. Law and order was too often the word of one individual. Plantations were few and far between. The cultivation of the arts or the social graces were limited to a few families. It was a crude society, and it gave to its members justice and care in accordance with the customs and knowledge of that period.

The planters, as the term is usually referred to, comprised a small group of farmers who owned thirty or more slaves. But because of their social position it was this group who made the contacts with the outside world, and in time the world came to view the South from the impression given to it by the planter class. In reality the planter class made up only a small minority of the Southern farmers. By far the larger group was the small farmer who owned few if any slaves and who worked his few acres by the sweat of his own brow. It was this yeomanry that was the backbone of the ante-bellum South, and it was this class that made up the rank and file of the Southern Army during the War between the States. It must not be supposed that the farmer class was opposed to slavery. In fact, in many cases he actually supported the institution. He dreaded the effect a large group of liberated slaves, undisciplined and unpoliced, might have on his livelihood. Then, last among the social classes of the South was the "poor-white-trash" who eked out a meagre living much the same as the Indians, and whom even the Negroes looked down upon.

Slavery was introduced into the Colonies during its very early days, and because laborers were so badly needed, the importation of Negro slaves became a very profitable business. Two types of systems sprang up due to the introduction of slaves. In Virginia the Englishman who settled there wished to continue the life he was accustomed to lead in England. Accordingly, the English manorial system suited his idea of living in which the labor would be furnished first by a group of indentured laborers and later by a group of Negro slaves. In the Carolinas at first the commercial type of plantation then prevailing in the British West Indies was introduced and flourished for a time. In this type of plantation system the planter had very little interest in his laborers. He did not intend to make his home in the New World, but as soon as his plantation was established to return to England to live off the profits. As a result he had little interest in the welfare of his slaves. Slaves were cheap and it was much simpler to replace losses with fresh importations than to be too concerned with the care of the slaves. In time the Virginia type of plantation prevailed over the Carolina (commercial type) because the planters soon realized that a second generation slave was worth a great deal more to him from the training he had received than a freshly imported African. Therefore, very early in the history of slavery in the colonies a second generation slave was worth twice as much as one just arrived from Africa. In time largely through empirical observations a set of rules and regulations were compiled by the planters for the well being and management of their slaves. These rules governed every phase of the slave's life: his social and religious life, his food and clothing, working conditions, and what may be classed as medical care.

The plantation as a rule was organized along the lines of a self containing economic unit. A staple crop was grown, either tobacco, rice, cotton, or cane to serve as a money crop, and sufficient food stuffs were raised for both slaves and stock. However, all too frequently additional supplies had to be pur-

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chased to supplement that grown on the plantation. The laboring force on the plantation was also organized. The head of the plantation work force was the overseer, a character much abused in fiction. Usually he was an individual, probably a descendant of the indentured white servant class, with no more than a second grade elementary education. His viewpoint of slavery was limited to making the slaves work, with a minimum of loss through sickness or death. His working hours were long and exacting. It was he who must arise long before day to arouse the slaves and have them out in the field by sunrise. He must keep them employed all day, and look after their health and welfare as he understood it. At night he must ring the curfew and see that everyone was in bed and secure the stock for the night before retiring himself. On the whole the overseer was hated by the slaves. It was he who made them work and administered the discipline and punishment as needed. It was the planter or owner to whom they could appeal for mercy. However, the overseer was not disturbed by the social implications of slavery. His job was to make slavery work, and, as a whole, it was due to his ability that it was made to work as well as it did, thereby shackling the institution of slavery firmly on the South. Just below the overseer in authority were the "drivers." These were Negro slaves who served as foremen of the various gangs. This was a much sought after position by the slaves due to the prestige it gave them among their fellows. The workers were classed as craftsmen or mechanics, cooks, nurses, seamstresses, house servants and the numerous field laborers.

The working hours of the slaves compared favorably with working hours of that period. It is true that working hours were usually specified from sunrise to sunset. As a rule, the workers were given an hour off for breakfast and from one to two hours for dinner. Then, too, if the slave was worked by the task system a prime field hand could often complete his task for the day by two o'clock. Saturday was as a rule a half holiday, or if a slave mother had several children she was granted all of Saturday. During the grinding season on the cane plantations the workers were pushed to complete the grinding season, but they were usually compensated by time off later or by being paid for the extra hours or days they were required to labor.

The food supply was one of the primary considerations of the planter, and, in regard to the quantity of the food issued, very little criticism can be directed to the planter. He realized that in order to obtain the maximum amount of work from his slaves they had to be well fed. He was very generous in his rations and one may say if he erred, he erred on the side of plenty. Criticism can be directed mainly against the quality of the food. It wasn't so much the planter's fault as it was the ignorance of the times regarding the importance of a balanced diet and the inability of the planter to supply fresh vegetables due to lack of refrigeration. Efforts were made to supply these deficiencies in many cases. Slaves were encouraged to work their own plots or gardens of vegetables, although unfortunately it was sales from their own gardens that supplied the slaves with their only source of revenue. Therefore, instead of supplying their own needs, they all too often sold the produce from their gardens. In many cases we read of ice houses being maintained by the planters, particularly in the upper South. Even in lower Mississippi some ice houses were built, repaired and maintained by the planters. Rations of the staple foods varied from section to section and from plantation to plantation, according to the resources and ideas of the planter. Yet in most cases the ration allowance shows a remarkable uniformity. A prime field hand was usually issued a peck of corn meal and three or four pounds of bacon per week. In addition there were issues of molasses, and potatoes, peas, and vegetables in season. Coffee was quite frequently issued in the morning, and when the slaves were employed at extra heavy work additional rations were issued. Children received a proportional amount. One planter specified that each child was to receive one-third of the meat and meal ration given to each prime hand. For breakfast each child received hominy, milk and cold corn bread and for dinner vegetable soup and dumplings or corn bread. In addition there was always available cold corn bread and potatoes at any time they wished between meals. Molasses was issued once or twice a week. The planters usually preferred the preparation of the food to be done by a plantation cook in order that the preparing of the food may be better supervised, since the Negroes were notoriously careless in this respect. Of course, there was little concern over the hygienic aspects of food sanitation. Dish washing was probably carelessly done, and one traveler

commented once on the number of flies present on the cooking utensils.

The clothes issued to slaves were of a coarse, substantial quality. As a rule, the men received every year a woolen suit with two flannel shirts and a woolen cap for winter, a cotton suit, two shirts and a straw hat in the spring. The women's clothes ration consisted of six yards of light and six yards of heavy cotton cloth with needles, thread and buttons. In the fall and spring each worker received a pair of stout shoes, and a blanket every other winter. In the rainy season oil cloth coats were frequently issued. Children received clothes in proportion. One planter used as a measuring stick for issuing cloth to children the height of the child. Garments were often made on the plantation by Negro seamtresses. It was only after the introduction of steam power in manufacturing cloth that clothes were bought already made. Suspenders were noted on one plantation being issued to the men. Of course, the house servants frequently received the cast off clothes of their master and mistress.

Slaves lived in what was known as the "Quarters," a double row of cabins facing each other with a path or roadway between. Cabins were built from fifty to hundred feet apart and the rows were usually two hundred feet apart. At first log cabins were the usual type of homes with chimneys of clay or brick. Later these were replaced with frame cabins weather boarded on the outside with brick chimneys, and still later brick was used to construct the cabins. The cabins contained only two rooms, with very little in the way of furnishings. A box bed, a crude rocking chair or bench and pegs for hanging clothes comprised the furnishings. As always there were exceptions to this. Slaves frequently acquired additional furniture to add to their meagre supply either from their earnings or from gifts.

One of the prime considerations of the planters was the health of their slaves. Rules and regulations for the management of the slaves were carefully written out for the benefit of the overseer who was charged with the management of the estate. P. C. Weston of South Carolina instructed his overseer as follows:

Sickness—All sick persons are to stay in the hospital night and day, from the time they first complain to the time they are able to go to work again. The nurses are to be responsible for the sick not leaving the house, and for the cleanliness of the bedding, utensils &. The nurses are never to be allowed to give any medicine without the orders of the Overseer or Doctor. A woman, beside the plantation nurse, must be put to nurse all persons seriously ill. In all cases at all serious the Doctor is to be sent for, and his orders are to be strictly attended to; no alteration is to be made in the treatment he directs. . . .[1]

The majority of planters seem to have some appreciation of personal cleanliness. Slaves were required to bathe once a week under the supervision of the overseer or driver. Mothers were instructed to change their children's garments twice a week in many cases. Soap was manufactured on the plantation, but there are many records showing that soap was purchased. On many of the plantations there was instituted a rule for spring cleaning. Homes were emptied of their contents and whitewashed inside and out. The premises were cleaned; particularly was the refuse under the cabins cleaned out and burned. The planter appreciated the value of pure water and observed that rain water was much healthier than water drawn from shallow streams or wells. This was an observation far in advance of the rational medicine of that day. On the other hand, there seems to have been a lack of understanding of the proper steps to be taken of garbage disposal and the building and location of privies. Flies seemed not to have bothered the planter or slaves and the proper scouring of cooking utensils seems not to have been properly appreciated.

Responsibility for the medical care of the slaves was, of course, the responsibility of the planter, or, as was usually the case, his wife, the mistress of the plantation. In the absence of the planter and his family the responsibility rested upon the overseer and his wife. Medicine was prescribed by either the planter, his wife or overseer, and then in many cases it was the Driver who did the doctoring or some folk remedy that was applied. Doctors often complained that they were sent for much too late to do any good. However, a planter was not too prone to skimp when it came to providing medical care for his slaves. He had too much invested in his laborers to neglect them. It may be said that within the limits of the conditions of the times the planters provided the best medical care possible for their slaves. In the lower South the practice was for a planter to contract by the year for the medical servicing of his slaves. His contract with a physician was usually from three-hundred to five-hun-

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dred dollars per year, while on the Eastern states the practice was usually for bills to be rendered by visits or medicine purchased.

With the lack of legal restrictions on medical practices everyone could practice medicine and most everyone did. Although there were a few medical centers in the South the majority of practitioners lacked what may be considered adequate training for their period. Medical cults flourished throughout the South. Negro folk medicine played its part. Medical chests and home remedies were the standard equipment of every plantation and home. Medical schools and journals were few and far between. There was little incentive for a physician to better prepare himself in the practice of his profession. Even with the meagre training and equipment at his disposal a number of Southern physicians made distinct contributions to medical practice among whom may be mentioned Nott, Cartwright, Sims, Long, McDowell and Fenner, to name a few.

The diseases attacking the slaves were those common at that time. Cholera and yellow fever were epidemics to be dreaded. Malaria took its toll of lives. It was not until the isolation of quinine from cinchona by two French chemists in 1822 resulted in the prescribing of quinine sulphate in sufficient doses to prove effective against malaria. The Negroes were particularly susceptible to lung infections, and pneumonia took its heavy toll. There seems to be a disagreement among several writers as to the prevalence of tuberculosis among the ante-bellum Negroes. Vaccination was a common practice soon after its discovery. Tetanus attacked slaves of all ages. It was particularly destructive among infants, and was one of the main causes of death among the newly born. Cachexia Africana (dirt-eating) was the dread of every planter. Plantations were known to be depopulated through dirt-eating in two years.

Therapy consisted for the most part in the administering of calomel and other cathartics, quinine, blisters, blood letting, baths and numerous other counter-irritating treatments. However, through it all the planter strove to improve the health of his slaves to the best of his ability. Good business required that his slaves lose a minimum of days work from sickness, and social custom demanded that he be good to his "people."

The obstetrical care of women followed a fairly uniform pattern. As soon as a woman announced herself pregnant she was assigned light tasks until her confinement. At that time she was confined to the lying-in room of the plantation hospital. The plantation "granny" or midwife were the usual deliverers, as few doctors were called in on such cases. Every large plantation had its own midwife or quite frequently a midwife served for a group of plantations. In such a case the usual fee was two dollars to be paid the owner of the midwife. Of course, the service rendered the patient was meagre. The greatest asset of the midwife was that she did "nothin," but let nature take its course. The common practice was to assign the mother to the hospital for at least a month or longer if necessary. One of the darkest pictures in caring for the slaves was the lack of appreciation of hygienic care of the infant. As a result the mortality according to some writers was as high as fifty per cent. As soon as the mother was able to return to work, which was light at first, the infant was placed in charge of the plantation nurse. Mothers were permitted to return to the nursery throughout the day to nurse their infants. In many cases they were cautioned to rest themselves before nursing, so as not to nurse while over-heated.

Each plantation of any size had its hospital or "sick house" as it was called. The plantation hospital probably came into existence during the eighteen twenties, as most of the "doctor" books published then contained recommendations for the building and organization of the hospital. At first the arrangements were rather simple. As recommended in one of the books:

> I feel it my duty to advise him, not only for humanity, but interest sake, to erect for his slaves, especially if he have many, a cheap coarse kind of building as an hospital. This building should be fixed on some spot, enjoying, in the highest degree, the double advantage of good water and air. It ought to consist of but one large room, quite open to the top, well aired by doors and windows, and with a plank floor, that it may be frequently washed and kept perfectly clean.[2]

From this rather primitive beginning the hospitals in time became more elaborate in their organization. Wards were assigned to the men and women. There was a special ward or even a hospital for confinement cases, or, as it was referred to, the lying-in room. Special rooms were assigned the convalescent. There were even records of internes being used. Doctors made regular visits, and someone was assigned to act as plantation nurse. Quite frequently in town a

hospital was organized to care for the slaves. The charges were about half that charged for whites, and some made a point of advertising that there was a resident physician in charge at all times.

It is very interesting in concluding this paper to speculate on the effectiveness of the medical care rendered to slaves. Various writers have disagreed as to how effective the planters were in caring for the health of the slaves. Some writers have pointed to the Rules for the Management of Slaves as an example of how well they were cared for. Others have pointed to the testimony of physicians of just how poor health conditions were. The picture from the standpoint of the literature is rather confused. The thing to remember is that health conditions at that time were bad everywhere in comparison to standards today. Rural conditions prevailing in the South could be duplicated everywhere. A survey of a few plantation journals throughout the South reveals some interesting vital statistics. Fifteen plantations in Alabama, Florida, Georgia, Louisiana, Mississippi and Texas show a morbidity rate (days lost from work per slave per year) which varied from 4.3, the lowest, to 21.3, the highest, with a median of 11.1 and a mean of 12.0.[3] Infant mortality rates were high in comparison to standards today, but were not unduly high for the ante-bellum period. The same number of plantations throughout the South reported 1,114 live births and 170 infant deaths which gives a death rate per thousand of 152.6.[4] The records of twelve plantations between the years 1830 and 1861 show a median birth rate of 54.2 per thousand. This figure was based on a slave population of 8,274 and 451 live births.[5]

In view of the health conditions prevailing during the ante-bellum period one is probably safe in saying that slave health was comparable to the public health of that era, and whatever were the failures were simply the failures of the times.

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New Type of Hospital Bed Chair Described.

A new type of folding bed chair, which will permit a recuperating patient to sit upright in a hospital bed without the effort entailed in moving out of bed and into a chair, was described in the Jan. 12 Journal of the American Medical Association.

"An upright position generally is more comfortable as well as more beneficial," according to Drs. Hugh T. Jones and John M. Askey, of St. Vincent's hospital, Los Angeles. Dr. Jones devised the chair, which has been used for elderly patients following injury or surgery, those with heart disease, and in cases where bed rest is essential and yet a prolonged upright position is also desired.

The new chair has no seat. The patient sits on the side of the bed and the chair is placed behind him. Its supportive position is maintained by fastening the chair to the bed. Downward extensions of the arm rests are attached by screw clamps to the angle iron beneath the mattress.

XUM

THE MEDICAL SOCIETY OF VIRGINIA

Public Relations

Committee Meeting.

Chairman, Dr. James P. King of Radford, opened the initial meeting of the Public Relations Committee at 2 p.m., January 3, 1952, at The Medical Society of Virginia headquarters in Richmond. Dr. B. W. Rawles, Dr. John W. Davis, Dr. J. T. T. Hundley, Dr. H. B. Mullholland, and P. R. Director R. I. Howard were present to help formulate a public relations program for the year. Also attending was Mr. Alden Aaro of radio station WRVA.

Mr. Aaro headed the agenda with an offer of public service radio time on station WRVA at no expense to the Society. Elaborating on his proposal, Mr. Aaro commented that time could be made available for fifteen-minute-weekly programs progressing over a period of six to thirteen weeks to be conducted under the auspices of the Society. Tentatively suggested was the Sunday quarter hour 12:00 to 12:15 p.m. Such a program would afford approximately thirteen minutes of actual dialogue.

The radio executive suggested several possible topics including the supply or availability of medical services, educational facilities in Virginia, legal and other controls exerted over physicians, and ultimate aims of the profession. Any topic selected should concern medical problems in Virginia and should be of a general, non-technical nature thereby creating greater listener appeal. In this connection, it was mentioned that the program could be recorded on tape for use at other broadcast stations in the state.

Various other program subjects suggested were: the chronically ill; night emergency calls; socialized medicine; voluntary health insurance. Mr. Aaro posed the problem of how a family might best go about buying its medical care. In addition, he reasoned the broadcast series must avoid the appearance of a sounding board for the pros and cons of socialized medicine and should not favor any special group of physicians.

If desired, copy material supplied by the Public Relations Committee could be re-written for presentation by the WRVA station staff. A questions-and-discussion type of program with a moderator and one or two physicians participating is preferred, avoiding the use of prepared papers or speeches.

Passed unanimously was a motion to develop the programs through a committee to be appointed for that purpose. It was agreed that these programs should be used in preference to several suggested radio transcriptions available from other sources.

An ensuing discussion resulted in the postponement of the Public Relations Conference until April 3rd or April 10th, a date more closely dividing the period between annual Society conventions. Dr. John T. T. Hundley was appointed general chairman of the conference which would feature three guest speakers in the morning followed by luncheon and two or three panel discussions. Dr. Hundley agreed to contact Senator Harry F. Byrd as a possible speaker at a proposed public session. Attending the conference by invitation should be members of the District Council, council members, and presidents, secretaries, and public relations committee chairmen of the component societies.

Upon the suggestion of Mr. Howard, the committee decided that an exhibit suitable for display at fairs, conventions, etc. might be created. Dr. Davis favored the use of a model electric train as a feature in a theme concerning medical service. A booth equipped to take blood pressure readings or detect diabetic conditions was also mentioned. It was determined that the scales-obesity subject should be tried possibly with the Metropolitan Life Insurance Company supplying some helpful information.

Dr. King next presented the idea of promoting the AMA plaque to be used in physicians' offices. It was agreed that order envelopes should be secured and distributed to the Society membership. Mr. Howard was so instructed.

Pointing out that practically every city was establishing a night emergency call system, it was added that too many physicians are neglecting their duty by not cooperating in such systems. The committee directed that relative kit material be sent to all component societies.

Mr. Howard outlined briefly the method by which the Tennessee State Medical Association conducted a course for doctors' secretaries aimed at improving office public relations. The committee thought a similar plan might be tried in Virginia. Dr. Davis revealed that the Lynchburg Academy of Medicine was presently preparing to sponsor such a lecture

series at a cost of $38.50 per person to be conducted by a professional instructor.

Pointing out the plans of the Virginia Chapter of the American Academy of Pediatrics to establish its own public relations body, the committee was of the opinion that any public relations effort might prove more effective if directed through the local medical society.

A general discussion ensued regarding the public relations objectives of AMA. Emphasis was placed on various Virginia problems as the night call situation; voluntary health insurance promotions; excessive fees and the publication of the existence of grievance committees. Also stressed was the opinion that hospital service under Blue Cross was being over-used.

Following the sugggestion that Mr. Charles Lively and Dr. Frank J. Holroyd of West Virginia be invited to participate in the April P. R. conference, the meeting adjourned.

BOOK ANNOUNCEMENTS

Spatial Vector Electrocardiography. By ROBERT P. GRANT, M.D., and E. HARVEY ESTES, JR., M.D. 1951. The Blakiston Company, Philadelphia, New York and Toronto. 41 Figures; 149 pages. Cloth. Price $4.50.

This small volume is not a complete text on electrocardiography. In fact, it deals solely with the QRS and T deflections from the spatial vector point of view. The objective is to teach the average physician how to utilize the spatial vector method as a supplement to the "pattern" method of interpretation, and how to do this without intricate calculation or additional apparatus.

One can commend this stimulating treatise and at the same time suspect that its appeal will be limited and that "pattern" interpretation alone will be predominant during the foreseeable future.

E.A.D., JR.

Cortisone and ACTH Used to Treat Skin Diseases.

The successful use of cortisone and ACTH to relieve the symptoms of 13 various skin inflammations and diseases was reported in the Jan. 5th J.A.M.A. by Drs. Robert R. Kierland, Paul A. O'Leary and Louis A. Brunsting of the Mayo Clinic and Dr. John W. Didcoct of the Mayo Foundation, University of Minnesota.

The article stressed, however, that the hormone drugs did not cure the afflictions, and should not be used promiscuously, without knowledge of their physiological effects and dosage, and of the influence of infection on those receiving such treatment.

The drugs, according to the report, appeared to buffer or to shield the target tissues from the provoking agent, and, because of this, suppressed many of the serious disabling symptoms of the diseases. They also aided in reducing the itching, which permitted more rapid healing of the lesions.

In addition, many of those persons treated with cortisone and ACTH showed mental stimulation and mental buoyancy, felt full of pep, were much more active and had increased appetites.

Some of the patients, however, were unable to sleep well, appeared anxious and agitated, and experienced slight and transient changes in their mental stability. Cortisone also tended to suppress the symptoms and surface signs of infectious diseases, which prevented the recognition of unexpected infections. Some patients, the report stated, did not obtain any relief from the drugs.

Recurrences of the symptoms of the diseases and inflammations were noted in many cases shortly after administration of the drugs ceased, according to the four Rochester (Minn.) dermatologists who made the report.

"For the majority of patients with dermatosis, the courses of treatment were short, and significant physiological alterations were seldom seen," the doctors stated.

"In all cases an effort should be made to find the minimal maintenance dose that provides suppression and relief symptoms."

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.,
State Health Commissioner of Virginia.

Whooping Cough.

According to reports to the State Health Department, the occurrence of whooping cough in Virginia was relatively low in 1951 with the highest incidence in the late winter and early spring. Experience teaches that epidemics may be expected to occur at two to four year intervals when a sufficient number of susceptibles collects. It is quite possible that 1952 may be a year of high incidence. Since young infants are particularly susceptible and are subject to high mortality, it is at this group that preventive measures should be aimed.

The accompanying table shows that for each year (except 1950) the number of deaths of children under one year of age constitutes a substantial majority of all deaths from whooping cough. With this fact in mind, physicians should remind parents of the importance of the early administration of whooping cough vaccine.

WHOOPING COUGH DEATHS IN VIRGINIA
1941-1950

Year	*Total*	*Under 1 Year*	*Percent Deaths Under 1 Year*
1950	48	23	47.9
1949	33	25	75.8
1948	41	34	82.9
1947	62	46	74.2
1946	57	40	70.2
1945*	72	45	62.5
1944	102	74	72.5
1943	126	84	66.7
1942	102	77	75.5
1941	196	122	62.2

*Mortality figures for 1941-45 include deaths occurring in Virginia regardless of usual residence.

Active immunization may be started as early as the second month of age and should be completed by the sixth month. Whether whooping cough vaccine is used alone or in combination with diphtheria and tetanus, three doses are indicated at four week intervals. It is generally held that the triple combination increases the effectiveness of the toxoids.

As far as possible young infants should be protected from exposure to whooping cough. When, however, the non-immune infant is exposed, passive protection may be given by the intramuscular injection of immune rabbit serum, hyperimmune human serum or gamma globulin.

In the treatment of whooping cough the antibiotics (notably aureomycin) have proved effective in lessening the severity of paroxysms and shortening the duration of the disease.

The early immunization of infants plus the widespread use of the antibiotics, have been the prime factors, we believe, in the lowered mortality from whooping cough in recent years.

MONTHLY MORBIDITY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Dec. 1951	Dec. 1950	Jan.-Dec. 1951	Jan.-Dec. 1950
Brucellosis	5	6	81	66
Diarrhea and Dysentery	213	98	3,160	3,740
Diphtheria	27	19	194	192
Measles	517	274	14,510	2,959
Meningitis (Meningococcal)	7	10	117	124
Poliomyelitis	16	44	267	1,200
Rocky Mountain Spotted Fever	3	2	63	77
Scarlet fever	89	119	990	937
Tularemia	5	7	40	44
Typhoid and Paratyphoid	6	4	69	88

MENTAL HEALTH

JOSEPH E. BARRETT, M.D.,
Commissioner, Department of Health Hygiene and Hospitals.

The Clinical Psychologist in the Psychiatric Clinic*

The role of the clinical psychologist in the psychiatric clinic is rapidly approaching three major areas of professional proficiency: diagnosis, research and therapy. The first of these areas, diagnosis, refers to the broadening concept of testing. This includes the evaluation and interpretation of how man relates in his efforts to adjust to society and what effect press events within the environment have on his internal dynamics. The primary functions of diagnostic testing are evaluation and interpretation. Psychological evaluation is a process of judging the effectiveness of the individual's efforts in adjustment to bring into harmony internal desires and strivings with external pressures and demands of society. Although it uses tools of measurement, evaluation is not synonymous with measurement. The term implies not only "how much" but "of what value". It is this emphasis on value that differentiates evaluation from measurement. Important as it has been for psychology to evaluate numerically and quantitatively the general function of intelligence, we can come to understand how the individual uses his mental equipment only through quantitative and qualitative evaluation of his unique style of thinking and his thought organization. The intelligence quotient represents a numerical relationship and a location point on a statistical scale of measurement. Merely knowing I.Q. rating reveals little more than an index of the mental ability of the individual. Two children of the same age, with approximately the same growth characteristics and of the same I.Q. rating, may be vastly different in success of school achievement and in personality make-up. The common factor in I.Q. rating gives a frame of reference for expected learning achievement. So many other factors enter into the area of psychological evaluation, a single quantitative result is inadequate. We think of the evaluation of the individual through a wide variety of testing techniques, including objective tests, projective tests and clinical observations under standard procedure. Evaluation starts with the premise that an individual's structure of character configuration, his unique thought organization, his fixed and changing sense of values, and his deeply ingrained prejudices, attitudes and feeling tones can be observed in his persistent and enduring manifestations of behavior reactions in response to stress situations. The psychologist seeks to gain insight into basic conflicts; is able to get clues to the particular reactions of the individual, to his inner organization and his unconscious conflicts by using a battery of selective tests. The psychological study is primarily concerned with how the individual perceives his world, how he organizes his thoughts and experiences, and with his potential capacities for thinking, perceiving and organizing. It is concerned with the sources of the individual's fears, feelings, conflicts and his emotional strengths and weaknesses. Through the use of tests the psychologist gains knowledge of the individual's skill in learning, the configuration of his intellectual functions, his attitudes toward people and things, and his capacity to transform external stress experiences into personal creative experiences. Each individual retains within his internal self-organization a residue of the experiences and feeling he has had during his early struggle between forces of inner desires and environmental demands. This is true even when controls have been modified by patience and affection. It is by these and all other vital experiences that the growing individual unconsciously builds his unique pattern of character organization and his own systems of reaction or of means to an end. Sometimes this inner system of reactions may be distorted, out of touch with reality, or basically opposed to survival. So far as the individual is concerned, these patterns of reaction represent his attempts to the solution to anxiety-producing conflicts. Interpretations are based on behavior and/or thinking characteristics which occur frequently and persistently throughout the psychological study. These are implications from which prediction can be made of behavior or thought char-

*Article prepared by Linda L. Carter, B.A., M.A., Chief Clinical Psychologist, Children's Service Center of Charlottesville and Albemarle County, Inc.

acteristics. Interpretations can be checked by refined observation.

Diagnostic conclusions are descriptive evaluations of mechanisms and dynamics associated with the symptoms or symptom complexes contained in the nosology of pathological adjustments.

The second major area of the clinical psychologist is that of research. Of the disciplines in the field of mental hygiene the psychologist has been the most oriented, by the nature of core training, to the field of research. This core training is the common knowledge of all psychologists whether clinical, industrial, social, educational, physiological or any other branches of psychology. The core forms the background of knowledge in the field and includes a general knowledge of psychological theories and research beginning with the early philosophical aspect of the study of human behavior. This dealt with ethical postulates on the spiritual attributes of the soul, the nature of man's free will and the ethical value of intelligence. The empirical experimentation with biological and sensory data through the struggles of the interrelationists and the behaviorists who sought to understand the mechanisms of behavior dealt in stimulus response mechanisms and theories of casual-effect relationships. These three aspects of psychological study were concerned with the functioning of man's faculties and the outer manifestations of behavior rather than with man himself. Man was split into his component parts and little was known of the internal mechanisms of emotions, motivation or the pattern structure of character. It was not until the beginning of the nineteenth century that the focus of investigation centered on man himself. Not until Freud's discovery of the unconscious and effect of internal motivating forces of man's instinctive desires on external manifestations of behavior was man, himself, actually studied.

This background knowledge, of the historical sequence of the development of psychological concepts and the thorough understanding of contemporary schools of thought, gives to the psychologist an experimental, oriented point of view. Definite courses in experimental methods and procedures in which statistical concepts are evaluated and standard procedures of observation are handled prepares the psychologist to accept the role of research. Research in the psychiatric clinic can be best handled by the disciplines in the field who actually come in close contact with individual problems of adjustment. Because of this core training we may assume that the major burden of research in the field work of mental hygiene will be carried by the psychologist.

The third major area of the clinical psychologist is that of therapy. The knowledge and the understanding of developmental psychology: child, adolescent, and adult, with particular attention to the genesis of growth levels and individual differences, gives to the psychologist a knowledge of expected and normative behavior, establishing a sensitivity to deviate and pathological manifestation. Further, although the functions of therapy are different from the diagnostic study and research, through the sensitivity to diagnosis and prognosis, the psychologist becomes more aware of what is involved in the therapeutic relationship. The psychologist has long been associated with remedial aspects of special disabilities, techniques of guidance and counseling and with the basic needs of the individual. Liaison has already been established with the schools on a consultant basis. In the core training of the educator and of the psychologist a common field of knowledge in the experimental methods of learning, motivation and perception have brought these two professions in close association. The concepts of individual differences, the wide spread use of testing techniques in the field of education and the close scrutiny of each profession on the behavior aspects of adjustment related to emotional, social and growth needs of the child has given these two professions common understandings in relation to the growth and development of the individual child.

We see the psychologist as rapidly emerging to professional status in the three major areas of diagnosis, research and therapy in the psychiatric clinic setting. In widening the scope of professional services, however, the approach must remain primarily within the area of its psychological idenfifications.

EDITORIAL

A Medical Map of Historic Virginia

VIRGINIA has become such a mecca for medical conventions that a guide for medical sightseers seems timely. We have made a list of places that should be of value to those interested in the history of medicine, and the State Department of Conservation and Development has kindly made for the MONTHLY a map which shows the location of these places and the roads leading to them. We suggest that the tourist get the booklet "State Historical Markers of Virginia" since many of the places have descriptive highway markers. It may be had for the asking by applying to the Virginia Department of Conservation and Development, Richmond, Virginia.

The first settlers of Virginia had two widely different origins. Those east of the Blue Ridge Mountains came directly from overseas. The great majority were English, but there was a good sprinkling of Huguenots and other groups. They were deep water pioneers, who kept their communication with the outside world by means of sailing vessels, and they continued their way of life as much as the frontier conditions would permit. Those west of the Blue Ridge came down the Valley of Virginia from Pennsylvania. They were chiefly Scotch-Irish and Palatine Germans and were isolated and self contained. The two groups differed in many ways—in religion, in politics, and in medicine. Compare, for instance, the work of William Baynham and Peter Mettauer of eastern Virginia with that of Jesse Bennett and Ephraim McDowell beyond the mountains. (Mettauer adopted lead sutures as soon as Diffenbach's report on staphylorrhaphy appeared in the *London Lancet.*)

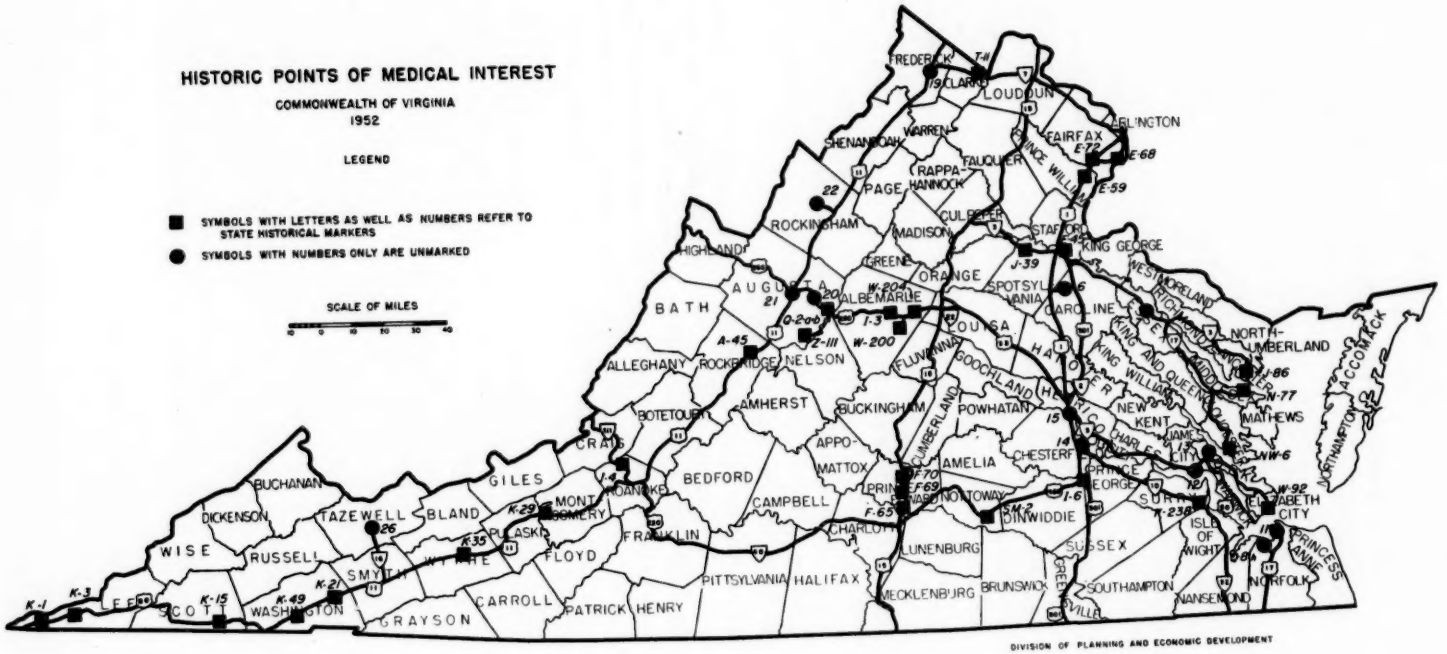
E-68. The first point of medical interest in eastern Virginia is Mt. Vernon. Here on December 14, 1799 Washington died of "cynanche trachealis". He was attended by Drs. James Craik, Elisha Dick, and Gustavus Richard Brown. The treatment consisted of copious bleeding, which was the accepted procedure at that time. This treatment was subsequently criticised, especially by lay biographers. Blanton[1] and more recently Tom Keys and Frederick A. Willius[2] have discussed Washington's death from a medical standpoint.

E-72. Pohick Church was the chief church of Truro parish of which the Rev. Charles Green, M.D. was rector. Rev. Green was one of the few examples in colonial Virginia of parson-physician, a class that was so common in New England. Just where he lived we do not know, but it was close enough to Mt. Vernon for him to attend Mrs. Washington in 1760 when she had the measles. Also in Fairfax County and on the Potomac is the birthplace (unmarked) of Nathaniel Chapman the celebrated editor of the American Journal of the Medical Sciences.

E-59. At Occoquan, in 1828, an irregular practitioner of Fairfax County performed a cesarean section and, for the first time in the United States and the second time in the history of the world, sutured the uterine incision. The operation was witnessed by Dr. M. L. Weems who reported it in the American Journal of Medical Sciences[3]. We have not been able to identify the house in which this remarkable operation was performed.

The first case of American hook-worm, Necator Americanus, was a Westmoreland County farmer[4].

E-45. In Fredericksburg, Dr. Hugh Mercer's apothecary shop is still standing. George Washington kept a desk here from which he transacted his business when in this part


HISTORIC POINTS OF MEDICAL INTEREST
COMMONWEALTH OF VIRGINIA
1952
LEGEND
SYMBOLS WITH LETTERS AS WELL AS NUMBERS REFER TO STATE HISTORICAL MARKERS
SYMBOLS WITH NUMBERS ONLY ARE UNMARKED
SCALE OF MILES
0 10 20 30 40
FREDERICK
CLARKE
LOUDOUN
ARLINGTON
FAIRFAX
WARREN
SHENANDOAH
PRINCE WILLIAM
FAUQUIER
RAPPAHANNOCK
PAGE
ROCKINGHAM
CULPEPER
MADISON
STAFFORD
KING GEORGE
HIGHLAND
GREENE
ORANGE
SPOTSYLVANIA
WESTMORELAND
AUGUSTA
ALBEMARLE
CAROLINE
BATH
LOUISA
NORTHUMBERLAND
ALLEGHANY
ROCKBRIDGE
NELSON
FLUVANNA
GOOCHLAND
HANOVER
KING AND QUEEN
KING WILLIAM
BOTETOURT
AMHERST
BUCKINGHAM
POWHATAN
NEW KENT
MATHEWS
CRAIG
APPOMATTOX
CUMBERLAND
CHESTERFIELD
JAMES CITY
YORK
ACCOMACK
NORTHAMPTON
BUCHANAN
GILES
BEDFORD
AMELIA
PRINCE GEORGE
DICKENSON
TAZEWELL
BLAND
MONTGOMERY
ROANOKE
CAMPBELL
NOTTOWAY
DINWIDDIE
SURRY
ELIZABETH CITY
WISE
RUSSELL
PULASKI
FRANKLIN
CHARLOTTE
LUNENBURG
SUSSEX
ISLE OF WIGHT
PRINCESS ANNE
SMYTH
WYTHE
FLOYD
PITTSYLVANIA
HALIFAX
MECKLENBURG
BRUNSWICK
SOUTHAMPTON
NANSEMOND
NORFOLK
SCOTT
WASHINGTON
CARROLL
PATRICK
HENRY
GRAYSON
DIVISION OF PLANNING AND ECONOMIC DEVELOPMENT

of his "district". General Mercer's military fame transcends his medical accomplishments. He was mortally wounded at the battle of Princeton.

J-39. Here on May 2, 1863 Stonewall Jackson was wounded. He was taken to a tent in the field hospital on the Lacy farm near the Wilderness Tavern, where Dr. Hunter McGuire amputated his left arm under light chloroform anesthesia. The anesthesia was so light that General Jackson felt the sawing of the bone although he said afterwards that it did not hurt. The arm was interred in the Lacy front yard and a small stone inscribed "Arm of Stonewall Jackson, May 3, 1863" was placed to mark the spot. Known today as "Ellwood", the former Lacy House is now owned by Dr. Gordon Jones of Fredericksburg and his parents.

6. After the operation, Jackson was removed to the office of the Chandler place at Guinea Station where he died of pneumonia. The question whether this was a post-anesthetic or a septic pneumonia has been raised. The latter seems to be the more likely diagnosis.

7. In Essex County, near Loretto, lived (placed unmarked) William Baynham (1749-1814) who in 1790 and in 1799 performed successfully the second and third laparatomies for ectopic pregnancy. Dr. Baynham's reputation among early American surgeons was second only to that of Philip Syng Physick.

Dr. Baynham was born just above Loretto, near the fork of the road at Hustle. (unmarked).

J-86. In the church yard are buried "King" Carter and his five wives, mute evidence of the high maternal mortality of colonial Virginia.

N-77. At Stingray Point in 1608, Captain John Smith was wounded in the arm by a stingray. His wound was treated by Dr. Walter Russell, a physician. The case is interesting for two reasons: Not only was the patient a V(ery) I(mportant) P(erson), but it illustrates how quickly the frontier did away with the artificial but strict barriers between physicians, surgeons, and apothecaries that existed in Europe at the time.

NW-6. Five miles to the west of here at Belroi near Gloucester C. H. was born Dr. Walter Reed on September 13, 1851. The place is owned and cared for by The Medical Society of Virginia.

W-92. In this casemate in Fortress Monroe, Jefferson Davis was confined from May 22 to October 2, 1865. His physician was Dr. John J. Craven. Dr. Craven's career was discussed by Dr. Chester Bradley at the 24th annual session of the American Association of Medical History.

11. At Ferry Point the first Marine Hospital in the United States began operation in 1800.

Q-8-h. The Portsmouth Naval Hospital is the oldest hospital of the Navy.

K-238. Half a mile to the north, stood the Warrascoyack Indian village, where Capt. John Smith obtained corn for the starving colonists in 1608. In the first years nutritional diseases very nearly destroyed the early settlers.

12. In the old church at Jamestown, The Medical Society of Virginia has erected a marble tablet to the memory of Dr. John Pott. He was at one time Governor of the Colony.

13. Williamsburg was the center of a great deal of medical activity towards the end of the Revolution. There were two hospitals for wounded French soldiers in the

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town and in the immediate vicinity there were small-pox and other military hospitals. The Eastern State Hospital has been operating since 1773. It is the oldest Hospital for the insane in the United States. In 1779 when Thomas Jefferson reorganized William and Mary College, he established a medical department. Dr. James McClurg was professor of anatomy and medicine.

14. At Henricopolis opposite Dutch Gap was built the first hospital in British America. It was destroyed in the Indian massacre of 1622.

15. At Richmond is located the Medical College of Virginia and the Miller Library of "Old Medicine" of the Richmond Academy of Medicine. Here Dr. Valentine H. Taliaferro performed the first episiotomy in America on December 2, 1851[5]. On Chimborazo Hill the Confederate Government had the largest hospital in the world.

I-6. At Petersburg is located the Central State Hospital, the earliest institution for Negro insane. Petersburg was the first locality to establish a board of health (1780) antedating New York, Baltimore and Boston.[6]

SM-2. Union Academy. Dr. Walter Reed attended school here.

F-70. Sick and wounded French soldiers were treated here after the Revolution.

F-69. Randolph-Macon Medical School. Between Kingsville (F-70) and Worsham (F-65) lived the celebrated John Peter Mettauer who established a number of operative technics. His operation for vesico-vaginal fistula was essentially the one that Marion Sims later used which brought Sims fame and fortune. Here Dr. Mettauer had a hospital and a medical school. He is buried in the nearby Hampden-Sydney Cemetery, where The Medical Society of Virginia has erected a stone to his memory.

W-204. Castle Hill was the home of Dr. Thomas Walker, physician and explorer. He was the preceptor of William Baynham and the first white man to lay eyes on the land we call Kentucky.

I-3. The University of Virginia was founded by Thomas Jefferson. Here Robley Dunglison wrote the first American book on Human Physiology and here was born Thomas Addis Emmet, a pioneer in gynecology.

W-200. At Monticello, Thomas Jefferson pursued scientific and agricultural studies. He was largely instrumental in the introduction of smallpox vaccination in this country (Halsey, Robert H., *How the President, Thomas Jefferson, and Dr. Benjamin Waterhouse established vaccination as a public health procedure.* History of Medicine Series of the New York Academy of Medicine, 1936).

T-11. Here in 1866 Dr. Mahlon Loomis, dentist, sent the first wireless message.

19. Winchester is the birthplace of Dr. Hunter McGuire. Here also was a medical school for many years. It was chartered under the name of the Medical School of the Valley of Virginia. The faculty consisted of Drs. Hugh Holmes McGuire, John Esten Cooke, and A. T. Magill. In 1829 Dr. Cooke went to Lexington, Kentucky to succeed Daniel Drake at Transylvania, and Dr. Magill went to the University of Virginia, and the Valley school closed for the want of a faculty. In 1847 the college was revived under the name of the Winchester Medical College. It went out of existence in March 1862 under peculiar circumstances. The excitement incident to John Brown's raid led some of the students to Harper's Ferry. They found a body beside the river and shipped it back to the school where it was prepared for dissection and used for teaching. The body proved to be that of Owen Brown, John Brown's

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son. When the Federal army entered Winchester it sent the body north and burned the College.

Q-2-a-b. Dr. Walker's exploring expedition started from here in 1748.

20. At Fisherville can be seen the extensive buildings of the 1900-bed Woodrow Wilson General Hospital which at the end of World War II became a white elephant. Part of the buildings and grounds are now used by Augusta County for a high school and another part by the State Board of Education as a civilian vocational rehabilitation school.[7]

Z-111. Augusta County, at the time Ephraim McDowell migrated to the west, embraced the entire State of Kentucky.

21. Staunton was the home of Dr. Alexander Humphreys, the preceptor of William Wardlaw, Samuel Brown, and Ephraim McDowell. He was the consultant in the celebrated case of Mrs. Jesse Bennett.

22. At Edom was performed the first cesarean section in the United States (14 Jany. 1794). The patient was the wife of Dr. Jesse Bennett. Dr. Humphreys was consultant in the case and when forceps failed he recommended either craniotomy or cesarean section. Mrs. Bennett chose the section and when Dr. Humphreys refused to operate, Dr. Bennett was forced to do it himself. He saved both mother and child.

A-45. The birthplace of Ephraim McDowell. Near here was also born his heroic patient, Jane Todd. She married Thomas Crawford at Lexington, Va. and the ceremony was performed by Rev. Samuel Houston, a relative of the liberator of Texas, who was also a native of this region.

I-4. Catawba Sanatorium.

K-29, K-35, K-21, K-49, K-15, K-3, and K-1. The Wilderness Road. Dr. Walker's expedition to Kentucky marks the route followed by Ephraim McDowell when he went west and when he returned to study under Dr. Humphreys and to go to the University of Edinburgh.

26. Tazewell, formerly Jeffersonville, the birthplace of Dr. George Ben Johnston.

BIBLIOGRAPHY

"The Annals of Medical History" for January and February 1938 has eight well illustrated articles and an editorial on medicine in Virginia.

Wyndham Blanton's three volume "History of Medicine in Virginia" is an invaluable guide.

The chapter on medical sciences in "The James River Basin, Past, Present and Future" of the Virginia Academy of Science, Richmond (1950) locates many points of medical interest in the James River Valley.

"State Historical Markers of Virginia" is a useful volume for the tourist to have at hand. There is no charge for the booklet.

1. Medicine in Virginia in the Eighteenth Century. p. 305.
2. Proc. Staff Meet. Mayo Clin. Feb. 1942.
3. **18**:257, 1836.
4. Am. Med. **3**:777, 1902. Phil. M. J. **7**:1251, 1901.
5. Garrison, Fielding H. and Morton, Leslie T. A Medical Biography. London, 1943. p. 339.
6. Southern Medicine & Surgery. **113**:308, 1951.
7. Virginia M. Monthly **75**:587, 1948.

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SOCIETY PROCEEDINGS

The Virginia State Board of Medical Examiners

Announces the following list of applicants who were licensed by the Board at its regular examinations, December 6-8, 1951:

BY ENDORSEMENT OF CREDENTIALS

Dr. Charles William Anderson, Norfolk.
Dr. Gayle Gardner Arnold, Richmond.
Dr. Marvin R. Batchelor, Richlands.
Dr. Roland Essig Bieren, Falls Church.
Dr. Delos White Boyer, Norfolk.
Dr. C. Howard Cain, Clifton Heights, Pa.
Dr. Gordon Frank Cavell, Victoria.
Dr. Sarah Cook, Arlington.
Dr. Clem Casper Crossland, Jr., Crewe.
Dr. James Christopher Curry, Mt. Calvary, Wisc.
Dr. James Seay Dean, Marion.
Dr. Chester William Dewalt, Jr., Virginia Beach.
Dr. Abraham Henry Dunn, Petersburg.
Dr. Alto Edmund Feller, Charlottesville.
Dr. Dante John Feriozi, Arlington.
Dr. Elwood Eugene Fisher, Norfolk.
Dr. Robert Irving Fleming, Amonate.
Dr. Zenas Waldo Ford, Jr., Hilton Village.
Dr. George Leonard Gee, Richmond.
Dr. Count Dillon Gibson, Jr., Richmond.
Dr. Sidney A. Haber, Richmond.
Dr. Robert C. Hagan, Roanoke.
Dr. Florine Kirk Hampton, Portsmouth.
Dr. William Vanbrooks Harrison, Hillsville.
Dr. Paul Cornelison Hendrix, Wytheville.
Dr. William Stuart Hotchkiss, Norfolk.
Dr. William Coolidge Humphries, Woodstock.
Dr. Joseph Leonard Jones, (C) Williamsburg.
Dr. William Aloysius Klausman, McLean.
Dr. Charles Roger Lyons, Blacksburg.
Dr. Gordon Rhodes MacDonald, Falls Church.
Dr. Karl Lee Manders, Charlottesville.
Dr. Albert E. Marland, Washington, D. C.
Dr. Jackson Thorne Marland, Chevy Chase, Md.
Dr. Allan McNeill McKelvie, Washington, D. C.
Dr. Grantland Sheppard Miller, Raven.
Dr. Harry Joseph Minarik, Salem.
Dr. Henry Frederick Wm. Mohrmann, Jr., Madison.
Dr. William Aloysious Moran, Jr., Clinchco.
Dr. Roscoe Searls Mosiman, Arlington.
Dr. Arthur John Muller, Norton.
Dr. William Duncan Owens, Warrenton.
Dr. Mary Gearin Robbins, Radford.
Dr. James Mebane Robertson, Roanoke.
Dr. Joseph Norris Rose, Chatham.
Dr. Meyer Rosenbaum, Arlington.
Dr. Dean Schufeldt, Oakland, California.
Dr. Joseph Charles Smith, Washington, D. C.
Dr. Stanley Edward Smith, Jr., Charlottesville.
Dr. David George Spence, Charlottesville.
Dr. Lawrence Jago Stetson, Suffolk.
Dr. Montgomery Alexander Stuart, Roanoke.
Dr. Cary Grayson Suter, Charlottesville.
Dr. William Thurman Watkins, Jr., Newport News.
Dr. Walter Albert Werner, Gate City.
Dr. Frank Bean Whitesell, Jr., Arlington.
Dr. Philip Abney Wilhite, Jr., Portsmouth.
Dr. Paul R. Wilner, Washington, D. C.
Dr. Arthur Lavergne Wilson, Winchester.
Dr. Wendell T. Wingett, Radford.
Dr. Norman Francis Wyatt, Boston, Mass.
Dr. John J. Yaeger, Clifton Forge.
Dr. William Hurlburt Young, Jr., Arlington.
Dr. Walker P. Youngblood, Petersburg.

BY EXAMINATION

Dr. Philip Austin, Alexandria.
Dr. William Walter Beckner, Jr., Rockbridge Baths.
Dr. Andrew Robert Wilson Climie, Covington.
Dr. William Edmund Craddock, Charlottesville.
Dr. Andrew Davis, Williamsburg.
Dr. Harry Norman Ein, Union, New Jersey.
Dr. John David French, Roanoke.
Dr. Robert Finley Gayle, Richmond.
Dr. Kenneth Martin Heatwole, Richmond.
Dr. Benjamin Harrison Hines, Newport News.
Dr. William Stephen Hitrec, Floyd.
Dr. Eugene Bell Linton, Wilmington, N. C.
Dr. John Hoover Moon, Philadelphia, Penn.
Dr. Esmond Douglas Vere Nicoll, Charlottesville.
Dr. Nathaniel Fulford Rodman, Jr., Norfolk.
Dr. Edward Akira Sawada, Charlottesville.
Dr. Frederick John Spencer, Christiansburg.
Dr. Virginia Claire Tusing, Vienna.
Dr. Chester LeeRoy Wagstaff, Philadelphia, Penn.

Three Chiropractors were also licensed.

Richmond Academy of Medicine.

At the meeting of the Academy on December 11, Dr. Charles L. Outland was named president-elect for 1952, and Dr. William R. Hill and Dr. John Robert Massie were elected vice-presidents. Dr. Guy W. Horsley succeeds Dr. Kinloch Nelson as president. Two new members elected to the Board of Trustees are Dr. William R. Morton and Dr. Paul D. Camp. The regular Christmas party followed the meeting.

The Danville-Pittsylvania Academy of Medicine

Held its regular monthly meeting December 14, at Hotel Burton, Danville. The Academy was ad-

dressed by Dr. Richard Ames, Neuro-surgeon of Greensboro, North Carolina, on the subject of Intra-Cranial Aneurysm.

At this meeting the Academy installed new officers for the year 1952. The newly elected officers are as follows: President, Dr. Donald Lurton Arey; vice-presidents, Dr. Allen L. Byrd and Dr. Betty Whitehead; secretary-treasurer, Dr. John R. Eggleston (re-elected), all are of Danville.

The Medical Society of Northern Virginia

Met at Woodstock in Shenandoah Memorial Hospital on December 11, Dr. George Long of Luray presiding. There were about fifty physicians in attendance and an interesting program was enjoyed. At a business session, Dr. Frank Tappan of Berryville was elected to the presidency and Dr. F. W. Gearing, Jr., was re-elected secretary-treasurer.

The Orange County Medical Society,

At its meeting on December 28, voted unanimously to increase charges for professional services, beginning January 7, to make their rates conform with those in other localities. At this meeting Dr. David H. Miller of Orange was elected president, succeeding Dr. H. C. McCoy of Gordonsville. Dr. J. D. Middlemas of Orange was named as vice-president, and Dr. J. Garnett Bruce of Gordonsville was re-elected secretary-treasurer.

Lynchburg Academy of Medicine.

The December meeting of the Academy was a business one at which the following were elected officers for the ensuing year: President, Dr. E. S. Groseclose; president-elect, Dr. Clarence E. Keefer; vice-president, Dr. J. E. Haynesworth; trustees, Dr. George B. Craddock, Dr. Robert H. Cox and Dr. John R. Saunders. Delegates and alternates to the next State meeting were also elected.

Roanoke Academy of Medicine.

At the January meeting, papers were presented as follows:

Past, Present and Future Program of the Health Department—Dr. J. N. Dudley.

The Roanoke Guidance Center—Dr. Gilbert J. Rich.

Several new members were admitted at this time.

Dr. Ira H. Hurt is president and Dr. Philip C. Trout secretary.

Albemarle County Medical Society.

At the meeting of this Society on January the 3rd, Dr. McLemore Birdsong was elected president, succeeding Dr. George Cooper, Jr. Other officers elected at this time were Dr. Thomas S. Edwards as vice-president and Dr. Armistead P. Booker as secretary-treasurer. All officers are of Charlottesville.

NEWS

The American Academy of General Practice

Is to hold its 1952 scientific assembly in Atlantic City, N. J., March 24-27. The delegates will gather earlier for pre-assembly meetings.

Dr. R. B. Robins of Camden, Ark., will be installed as new president of the Academy succeeding Dr. J. P. Sanders of Shreveport, La. Other officers for the current year are Dr. Fred A. Humphrey of Fort Collins, Colo., vice-president, Dr. William B. Hildebrand of Menasha, Wis., chairman of the Board of Directors, and Dr. U. R. Bryner of Salt Lake City, Utah, treasurer. Dr. J. S. Detar of Milan, Michigan, is speaker of the Congress of Delegates.

An outstanding array of speakers will present a varied program which will be of the utmost interest to every general practitioner. Scientific exhibits, keyed to each lecture subject, is an innovation which promises the most satisfying results. Many of the 179 firms in the technical exhibit will also relate their exhibits to the scientific program.

On the Monday, March 24 program, Dr. John W. Cline, president of the A.M.A., Leonard E. Read, Louis B. Seltzer, and Rollen Waterson will discuss the relationship of the general practitioner and the public. Drs. O. Spurgeon English and Richard Kern are teamed up for important lectures on the "problem ages."

The question of "problem drinking" will be featured in a symposium on the Tuesday morning program. Mr. W. G. W. from Alcoholics Anonymous, Dr. Harold Lovell, and Seldon D. Bacon, Ph.D.,

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will give lectures. Academy member Andrew S. Tomb will be moderator at a forum session with Mr. W. G. W., Drs. Lovell and Bacon, Rt. Rev. Clinton S. Quinn, D. D., George H. Gehrman, M. D., and Milton G. Potter, M. D., taking part. Lectures on obstetrics will be given by Drs. Robert B. Greenblatt, George J. Thomas, and M. Edward Davis. Dr. William Dameshek will speak on Anemia to complete Tuesday's program.

Six outstanding authorities will present Wednesday's program on Progress in Medicine. They are Drs. John C. Krantz, Jr., Julius H. Comroe, Wallace M. Yater, Cyril M. Macbryde, Hans Selye, and Jerome W. Conn. These six will make up an "Information Please" session with Dr. Harry Gold as moderator.

The final Assembly lectures will be on Orthopedics Thursday morning with Drs. William T. Green, J. Albert Key, David M. Bosworth, and Rex Diveley in charge.

A record attendance of 4,000 persons is expected at the Assembly's social highlight, the banquet, which will be held Wednesday evening. All sessions of the Assembly, the exhibits, and the banquet will be held in Atlantic City Convention Hall.

The New Richmond Eye Hospital,

At 408 North 12th Street, is expected to be opened about April 1st. At a recent meeting of the organization, Dr. Rudolph C. Thomason was elected president, succeeding Dr. W. Wallace Gill who had been president since its inception six years ago. Nathan Bushnell, III, administrator for the past year, was named secretary-treasurer. Dr. E. Trible Gatewood and Dr. S. M. Cottrell were elected vice-presidents. In addition to these, the following were chosen as directors: H. H. Augustine, Dr. W. W. Gill, George E. Haw, Dr. L. Benjamin Sheppard, and Dr. B. Randolph Wellford of Richmond, and Dr. John W. Burke of Washington.

News from State Department of Health.

On January 1, 1952, Halifax and Pittsylvania Counties were combined to form the Halifax-Pittsylvania Health District with Dr. Leroy D. Soper as Health Officer. Offices are located in South Boston and Chatham.

Dr. Catherine H. B. Howell resigned as Health Officer of the Fluvanna-Goochland-Louisa Health District. She will assume duties as Health Officer of the city of Danville on February 15.

Dr. William B. Harrison, Health Officer of the Carroll-Grayson Health District, and Dr. J. N. Rose, Health Officer of Pittsylvania County, have resigned their positions.

Heads Bombay Office, Parke-Davis & Company.

The retirement is announced of Mr. H. W. Fieth as general manager of the Bombay branch of Parke-Davis and Company and the appointment of Mr. W. O. Lloyd as his successor. Mr. Fieth has spent 45 years with Parke-Davis, mostly in India, and had been general manager of this office since November 1939. He and his wife will make their home in the British Isles. Mr. Lloyd has spent more than 25 years with the Company in India and was assistant to Mr. Fieth since January 1947.

News from University of Virginia, Department of Medicine.

Dr. Edward Valentine Jones, former Instructor in Neurology at the University of Michigan, has been appointed Assistant Professor of Neurology and Psychiatry at the University. Dr. Jones will be responsible for the direction of the laboratories of encephalography.

The Nemours Foundation of Wilmington, Delaware, has allotted $9,800 to the University of Virginia Hospital for hospital and convalescent care of crippled children during the year 1952. An additional $1500 has been allocated to the University of Virginia Speech and Hearing Clinic.

These gifts represent a phase of the program of the Nemours Foundation which has allocated $39,000 for the development of services to crippled children in Virginia for the current year.

The Spring Congress

Of the Gill Memorial Eye, Ear and Throat Hospital will represent the Silver Anniversary of these Congresses, and will be held in Roanoke, April 7 to 12 inclusive. Registration will be at Hotel Patrick Henry, where luncheon will be served each day. The various clinics will be at the Hospital. On Tuesday afternoon, there will be a trip to Natural Bridge and on Wednesday evening a banquet at Hotel Roanoke. On this occasion there will be an address by Surgeon General Lamont Pugh, U.S.N., Washington, D. C.

Guest speakers who will hold the various clinics are prominent specialists from the various states and England.

Dr. Charles M. Caravati,

Assistant Professor of Clinical Medicine, Medical College of Virginia, Richmond, addressed the Medical Society of Northern Virginia at Woodstock on December 11 on the "Management of Gastro-duodenal Ulcer".

The Ex-Intern Association of Stuart Circle Hospital,

Richmond, met at the Hospital on November 13, Dr. C. C. Chewning of Richmond, presiding. Papers were presented by two Richmond doctors—Dr. Alexander G. Brown, III, "The Risk and Management of Cardiac Patients in Surgery" and Dr. E. W. Perkins on "The Diagnosis and Treatment of Glaucoma". The election of officers resulted in Dr. Hunter S. Jackson of Richmond being named president, Dr. Mark B. Williams of Williamsburg as vice-president, and Dr. John Edgar Stevens of Richmond succeeding himself as secretary-treasurer.

Seminar on Cancer Cytology.

The Division of Training of the Cancer Cytology Center of the Dade County Cancer Institute, an affiliate of the Medical Research Foundation of Dade County in Miami, Florida announces its second one-week seminar for physicians to be held at the Institute from April 21st-25th inclusive and immediately preceding the annual convention of the Florida Medical Association.

Instruction will be under the supervision of Doctor J. Ernest Ayre, Director of the Institute and its research staff. More than twenty outstanding local and visiting physicians and scientists will compose the faculty.

Interested physicians should direct their inquiries regarding qualifications, registration, fees and other details to the Director of the Dade County Cancer Institute at 1155 North West 14th Street, Miami, Florida. Applications for registration, limited to 35 physicians, will be accepted through April 19th.

Staff Change at Eastern State Hospital.

Dr. Isaac C. East recently resigned as clinical director of Eastern State Hospital, at Williamsburg, a position he had held for several years, to accept the superintendency of Spencer State Hospital at Spencer, West Virginia.

Dr. Eleanor Beamer-Maxwell, who has been with the Williamsburg Hospital for about ten years and serving as chief of the woman's division, has been appointed to fill the vacancy caused by Dr. East's resignation.

Dr. R. A. Vonderlehr

A native of Richmond who has for sometime been stationed with the Government in Atlanta, has been named director for Region IV of the Federal Security Agency, succeeding Dr. F. V. Meriwether, retired.

Petersburg General Hospital.

Dr. Fletcher J. Wright, Jr., was in January elected chairman of the Hospital staff, succeeding Dr. Carney Pearce. Elected to serve with Dr. Wright are Dr. T. B. Pope as vice-chairman, Dr. Nelson W. Smith as recording secretary, and Dr. Clyde W. Vick as vice-secretary.

Medical College of Virginia News.

Gifts and grants to the college since July 1 now total over $530,000. Among recent gifts are: $1500 to the Medical College of Virginia Foundation by Dr. William R. Laird of Montgomery, West Virginia; $6750.00 in the will of the late Dean Wortley F. Rudd of the school of pharmacy for student loans in that school; $2500 from an anonymous donor for the general student loan fund. The Pamunkey Woman's Club contributed a record player for Dooley Hospital for the children hospitalized there.

Mr. Emmet K. Reid, formerly in charge of admissions in the Hospital Division, has been appointed administrative assistant to the director. Mr. Reid will have charge of the Saint Philip Hospital. Mr. Reid succeeds Mr. Robert Crytzer, who resigned to accept the directorship of Westbrook Sanatorium on January 1.

The third course in hospital administration began on January 2. Enrolled are: John W. Bailey, Charleston, South Carolina; Thomas F. Cole, Ashboro, North Carolina; Robert A. Cramer, Hampton, Virginia; Thomas J. Curtis, Richmond, Virginia; Charles F. Farnsworth, Jr., Ashland, Virginia; Thomas W. Leggett, Charlottesville, Virginia; Joseph O. Walton, Richmond.

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The corner stone of the new nurses' dormitory, Randolph-Minor House, was laid on December 7. This new facility will house sixty nurses. When funds are available three additional stories are planned.

The new dental building now under construction will be named The Wood Memorial Building in honor of the late Judd B. and Bettie Davis Wood, who bequeathed their estate, amounting to well over a million dollars, to the college in 1938.

The dental home coming was held January 28-29. A special bulletin, *Milestones,* carried the invitation and program for this celebration. The bulletin is designed as a memorial to the late Dean Harry Bear of the school of dentistry and carries the talks made at the presentation of his portrait to the college on January 26, 1951.

Dr. Frances A. Hellebrandt, Professor of Physical Medicine, resigned in December to accept the directorship of the Department of Physical Medicine of the University of Illinois. Dr. Walter J. Lee, Associate Professor of Physical Medicine, will have charge of the department of physical medicine, until a new head of the department is appointed.

Dr. William T. Sanger, President, has been chosen President-Elect of the National Society of Crippled Children and Adults.

Postgraduate Institute to Feature Television Program.

The 16th Annual Postgraduate Institute and Convention of the Philadelphia County Medical Society will be held April 1-4, at the Bellevue-Stratford Hotel. Arrangements are being made to televise special clinical programs from the Jefferson Hospital directly to the lecture hall at the hotel on Wednesday, Thursday and Friday mornings.

Among the subjects to be covered at this year's meeting are "Ear, Nose and Throat Problems"; "Obstetrics and Gynecology"; "Pediatrics"; "Surgical Problems"; "Dermatology" and panel discussions on "ACTH, Cortisone and Hydrocortisone", "Functional Problems in General Practice" and the "Stroke Problem".

There will be the customary Clinical Pathological Conference on Thursday evening as well as the large number of technical exhibits.

A preliminary program will be mailed out very shortly. The Director of the Institute is Thomas M. Durant, M.D., 301 S. 21st Street, Philadelphia 3, Pa.

Office Available.

Doctor's or Dentist's office available immediately, corner Franklin and Harrison Streets, Richmond. Call 5-4397. (*adv.*)

Wanted—

One Resident Physician, $225.00 per month, Two Rotating Interns, $150.00 per month, 117 bed general hospital, newly opened. Apply in writing, Administrator, Louise Obici Memorial Hospital, Suffolk, Virginia. Appointments will be available July 1, 1952.

Wanted:

General practitioner, 2nd Assistant, for March vacancy on 8-Doctor Medical Staff in Southwestern Virginia mining town. Supplies furnished, no business expense. Extras and Salary give net income about $900.00 per month. Good schools, living conditions. Not isolated. 3 bedroom furnace heated home. Prefer Doctor with family. Must be Sober, settled, non-addict, dependable and willing worker. Give availability and full information in first letter. Write Physician-in-Charge, Stonega, Virginia. (*Adv.*)

Wanted:

Man to do general practice with small group in Virginia hospital. Address "General Practice", care this journal, 1105 West Franklin Street, Richmond. (*Adv.*)

OBITUARIES

Dr. Arthur Broaddus Gravatt,

Widely known physician of Hanover County, died January 2 at his home at Ellerson. He was sixty-seven years of age and a graduate in medicine from the University College of Medicine, Richmond, in 1909. He was for many years a surgeon for the Chesapeake and Ohio Railroad and was a former member of The Medical Society of Virginia. On his sixty-fifth birthday, his patients gave him a surprise party and presented him a television set. His wife and several children survive him, one of them, Dr. A. B. Gravatt, Jr.